

Radio AMATEUR

Call Book Magazine

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SUMMER 1949

IN THE OLD DAYS...

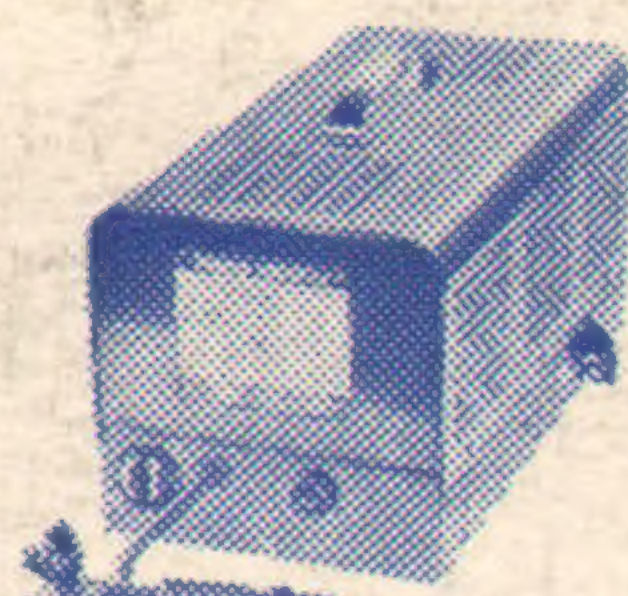
the CQ played with **cat's whiskers**

They look like toys to us now. But in those exciting days, crystal sets were serious business and represented the ultimate in radio receivers. Today, after nearly 40 years, the tops in capacitors is still C-D. When you plunk down your hard-earned silver for a capacitor, auto vibrator or a converter... be sure to ask for C-D by name. It's got the same dependability and premium value that the granddaddies of ham radio know and respect. Ask 'em and see. Also add Faradon transmitting capacitors to your "must" list—a new member to the growing family of dependable C-D radio and TV components.

POPULAR TYPES OF C-D UNITS



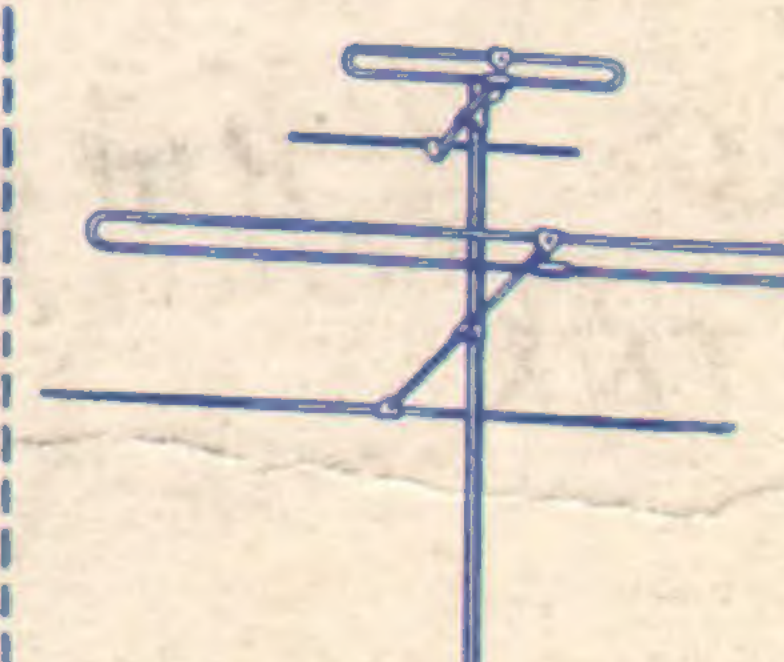
C-D MICA CAPACITOR
TYPE 9



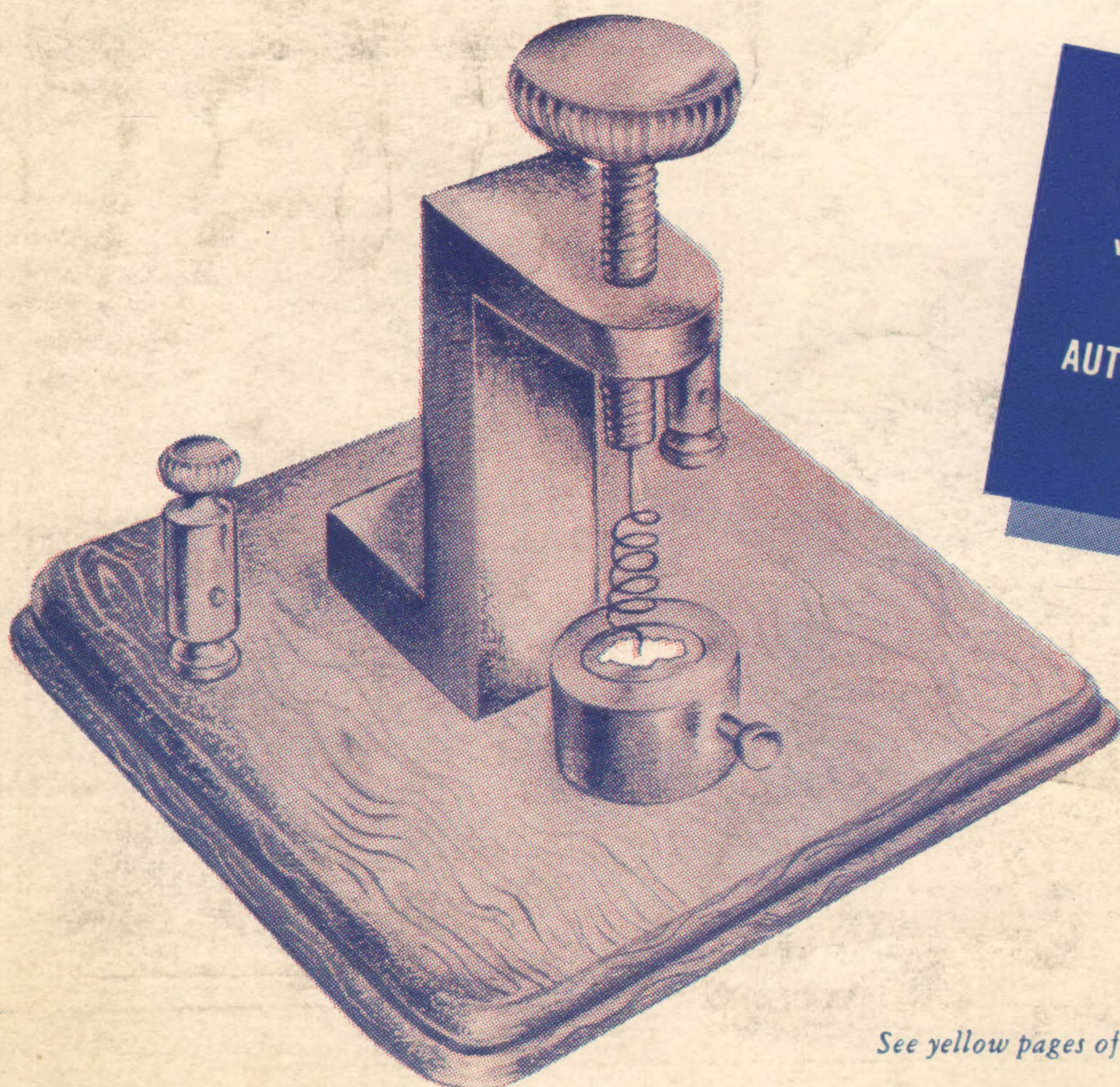
C-D CONVERTER
TYPE 6R10



C-D AUTO VIBRATOR
TYPE C00



C-D TV ANTENNA
T85-ATV



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Simpson has
whatever you need
in PANEL METERS



PANEL METERS THAT STAY ACCURATE

Soft iron pole pieces and full bridge construction are only two of the design and production superiorities which have made SIMPSON the most popular meter among amateurs.

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AL KNOELL, famous Midwest amateur (W9TLQ) states: "The Simpson 240 Hammeter is really a handy instrument to have around your ham-shack."

Model 240—the "Hammeter"—was designed for additional voltage and sensitivity demanded in radio testing. In fact with its maximum voltage range of 3000 A.C. or D.C., it was the first self-contained pocket portable built expressly to check high voltage and all component parts of transmitters and receivers.

MODEL 240 RANGES:

A.C. Volts: 0-15, 150, 750, 3000 . . . D.C. Volts: 0-15, 75, 300, 750, 3000 . . . C.C. Milliamperes: 0-15, 150, 750 . . . Ohms: 0-3000 (center scale 30) -0-300,000 (center scale 3000) . . . Accuracy: D.C. 3%—A.C. 5%.

Amateur's Net Price . . . \$24.60

Simpson
INSTRUMENTS THAT STAY ACCURATE

SIMPSON ELECTRIC COMPANY
5200-5218 W. Kinzie St., Chicago 44, Illinois
In Canada: Bach-Simpson, Ltd., London, Ontario

RADIO AMATEUR CALL BOOK

MAGAZINE

If you hold two separate radio amateur station licenses, be sure and advise us giving the call letters, addresses and the date that each license was issued. This information may prevent one of your calls from being deleted from the Callbook through error. You may receive a questionnaire from us asking for all of your ex-calls and your full name, including your middle name. This information is desired for identification purposes only so that your call will not be confused with another radio amateur having the same last name.

If your first name does not appear opposite your call letters, it is due to the fact that we do not have it in our records. If you desire your "handle" included in your QRA be sure and write us.

W9TRD

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NUMBER 2

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W9TRD

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Includes the States of New Jersey and New York.	
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Includes the States of Delaware, Maryland, Pennsylvania, and the District of Columbia.	
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Includes the States of Alabama, Florida, Georgia, Kentucky, North and South Carolina, Tennessee, Virginia and the territories of Puerto Rico and the Virgin Islands.	
 FIFTH CALL AREA	 111
Includes the States of Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas.	
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Includes the State of California, the Territory of Hawaii and those Pacific Possessions not assigned to the seventh call area.	
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Includes the States of Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming, the territory of Alaska and adjacent islands.	
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TYPE X-7018

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AIR-LINE DISTANCES IN MILES BETWEEN CITIES IN THE UNITED STATES

ATLANTA, GEORGIA	140	1244	937	697	353	1229	587	554	194	721	1212	739	596	1291	1697	701	426	285	676	456	1936	319	604	668	907	214	424	748	505	666	1592	521	467	1583	2139	2182	543	371	WILMINGTON, N. C.	
BIRMINGHAM, ALA.	140	1174	1052	776	442	1119	578	618	334	581	1095	670	641	1152	1602	567	433	374	579	325	1802	331	665	659	862	182	312	864	638	783	1456	608	400	1466	2013	2082	661	512	WASHINGTON, D. C.	
BISMARCK, N. D.	1244	1174	1489	1106	1133	440	734	1014	1359	990	531	506	926	1081	534	1211	881	1529	618	943	1267	965	1838	682	384	1030	1297	1396	1430	1367	1095	1127	779	694	1265	1013	1318	1474	SEATTLE, WASHINGTON	
BOSTON, MASS.	937	1052	1489		400	622	1735	851	551	791	1551	1769	1159	613	2072	1605	807	1017	1251	1259	2596	826	1255	857	1123	943	1359	188	471	271	2300	483	1038	2099	2699	2493	393	673	SAN FRANCISCO, CALIF.	
BUFFALO, NEW YORK	697	776	1106	400		344	1335	454	173	623	1198	1370	760	216	1692	1640	1286	435	879	913	2198	483	1181	458	731	627	1086	292	947	279	1906	178	662	1699	2300	2117	292	598	SALT LAKE CITY, UTAH	
CHARLESTON, W. VA.	353	442	1133	622	344		1246	400	217	302	935	1256	673	284	1475	1642	984	262	553	701	642	2054	225	870	461	755	322	754	440	311	365	1733	168	465	1616	2205	2132	253	350	ST. LOUIS, MO.
CHEYENNE, WYOMING.	1229	1119	440	1735	1335	1246		891	1199	1390	726	96	583	1125	653	521	947	986	1493	560	813	882	1033	1763	878	642	1032	1131	1604	1556	1556	663	1298	795	371	967	973	1477	1540	PHOENIX, ARIZONA
CHICAGO, ILLINOIS	587	578	734	851	400	891			308	652	803	920	309	238	1252	1248	940	165	863	414	552	1745	269	1188	81	355	397	833	713	699	666	1453	410	262	1260	1858	1737	597	745	PHILADELPHIA, PA.
CLEVELAND, OHIO	584	618	1014	551	173	217	1199	308		518	1025	1227	617	90	1525	1541	1114	263	770	700	740	2049	311	1087	335	630	459	924	405	432	360	1749	115	492	1568	2166	2026	306	541	NORFOLK, VA.
COLUMBIA, S. C.	194	334	1359	791	623	302	1390	652	518		914	1380	863	585	1484	1837	891	489	256	830	644	2123	395	569	726	998	358	599	605	332	523	1781	448	603	1751	2317	2326	405	178	NEW YORK, N. Y.
DALLAS, TEXAS	721	581	990	1551	1198	935	726	803	1025	914		663	632	999	572	1247	225	763	908	451	293	1240	726	1111	857	862	617	443	1374	1196	1299	887	1070	547	999	1483	1681	1185	1091	MINNEAPOLIS, MINN.
DENVER, COLORADO	1212	1095	531	1769	1370	1256	96	920	1227	1380	663		610	1156	557	591	879	1000	1467	558	780	831	1038	1726	914	700	1023	1082	1631	1566	1579	586	1320	796	371	949	1021	1494	1537	MILWAUKEE, WIS.
DES MOINES, IOWA	739	670	506	1159	760	673	583	309	617	863	632	610		546	983	977	821	411	1023	180	478	1438	476	1333	309	235	525	827	1022	983	973	1155	715	273	953	1550	1467	896	993	INDIANAPOLIS, IND.
DETROIT, MICHIGAN	596	641	926	613	216	284	1125	238	90	585	999	1156	546		1479	1455	1105	240	831	645	723	1983	316	1152	252	543	470	939	482	522	443	1690	205	455	1492	2091	1938	396	623	JACKSONVILLE, FLA.
EL PASO, TEXAS	1291	1152	1081	2072	1692	1475	653	1252	1525	1484	572	557	983	1479		1065	676	1264	1473	839	847	701	1254	1643	1279	1157	1169	983	1905	1755	1836	346	1590	1034	689	995	1376	1728	1661	KANSAS CITY, MISSOURI
HELENA, MONTANA	1697	1602	534	2024	1640	1642	521	1248	1541	1837	1247	591	977	1455	1065		1467	1382	1973	1023	1315	924	1453	2260	1206	912	1488	1646	1929	1947	1897	907	1652	1236	403	807	490	1842	1969	HELENA, MONTANA
HOUSTON, TEXAS	701	567	1211	1605	1286	984	947	940	1114	891	225	879	821	1105	676	1467		865	821	644	388	1374	803	968	1005	1056	665	318	1420	1204	1341	1017	1137	679	1200	1645	1891	1220	1066	HOUSTON, TEXAS
INDIANAPOLIS, IND.	426	433	881	807	435	282	986	165	263	489	763	1000	411	240	1264	1382	865		699	453	483	1809	107	1024	243	511	251	712	646	573	585	1499	330	231	1356	1949	1872	494	593	INDIANAPOLIS, IND.
JACKSONVILLE, FLA.	285	374	1529	1017	879	553	1493	863	770	256	908	1467	1023	831	1473	1973	821	699		950	690	2147	594	326	942	1191	499	504	838	546	758	1794	703	751	1837	2374	2455	647	346	KANSAS CITY, MISSOURI
KANSAS CITY, MISSOURI	676	579	618	1251	861	701	560	414	700	830	451	558	180	645	839	1023	644	453	950		325	1356	480	1241	443	413	473	680	1097	1009	1038	1049	781	238	925	1506	1506	945	981	LITTLE ROCK, ARK.
LITTLE ROCK, ARK.	456	325	943	1259	913	642	813	552	740	644	293	780	478	723	847	1315	388	483	690	325		1480	435	949	618	708	325	355	1081	909	1007	1137	779	291	1148	1688	1785	892	818	LOS ANGELES, CALIF.
LOS ANGELES, CALIF.	1936	1802	1267	2596	2198	2054	882	1745	2049	2123	1240	831	1438	1983	701	924	1374	1809	2147	1356	1480		1829	2339	1744	1524	1780	1673	2451	2355	2394	357	2136	1589	579	347	959	2300	2294	LOUISVILLE, KY.
LOUISVILLE, KY.	319	331	965	826	483	225	1033	269	311	395	726	1038	476	316	1254	1453	803	107	594	480	435	1829		919	349	605	154	623	652	529	582	1508	344	242	1402	1986	1943	476	516	MIAMI, FLORIDA
MIAMI, FLORIDA	604	665	1838	1255	1181	870	1763	1188	1087	569	1111	1726	1333	1152	1643	2260	968	1024	326	1241	949	2339	919		1267	1511	815	669	1092	797	1019	1982	1010	1061	2089	2594	2734	923	598	MILWAUKEE, WIS.
MILWAUKEE, WIS.	668	659	682	857	458	461	878	81	335	726	357	914	309	252	1279	1206	1005	243	942	443	618	1744	349	1267		299	478	910	733	749	694	1464	446	327	1242	1842	1692	637	810	MINNEAPOLIS, MINN.
MINNEAPOLIS, MINN.	907	862	384	1123	731	755	642	355	630	998	862	700	235	543	1157	912	1056	511	1191	413	708	1524	605	1511	299		697	1051	1018	1047	985	1280	743	466	987	1584	1395	934	1100	NASHVILLE, TENN.
NASHVILLE, TENN.	214	182	1030	943	627	322	1032	397	459	358	617	1023	525	470	1169	1488	665	251	499	473	325	1780	154	815	478	697		469	761	586	685	1446	472	254	1393	1963	1975	569	517	NEW ORLEANS, LA.
NEW ORLEANS, LA.	424	312	1297	1359	1086	754	1131	833	924	599	443	1082	827	939	983	1646	318	712	504	680	355	1673	623	669	910	1051	469		1171	926	1089	1316	919	598	1434	1926	2101	966	769	NEW YORK, N. Y.
NEW YORK, N. Y.	748	864	1396	188	292	440	1604	713	405	605	1374	1631	1022	482	1905	1929	1420	646	838	1097	1081	2451	652	1092	733	1018	761	1171		296	83	2145	317	875	1972	2571	2408	205	499	NORFOLK, VA.
NORFOLK, VA.	505	638	1430	471	947	311	1556	699	432	332	1196	1566	983	522	1755	1947	1204	573	546	1009	909	2355	529	797	749	1047	586	926	296		222	2028	318	771	1927	2515	2436	146	203	PHILADELPHIA, PA.
PHILADELPHIA, PA.	666	783	1367	271	279	365	1556	666	360	523	1299	1579	973	443	1836	1897	1341	585	758	1038	1007	2394	582	1019	694	985	685	1089	83	222		2083	259	811	1925	2523	2380	123	423	PHOENIX, ARIZONA
PHOENIX, ARIZONA	1592	1456	1095	2300	1906	1733	663	1453	1749	1781	887	586	1155	1690	346	907	1017	1499	1794	1049	1137	357	1508	1982	1464	1280	1446	1316	2145	2028	2083		1828	1272	504	653	1114	1983	1954	PITTSBURGH, PA.
PITTSBURGH, PA.	521	608	1127	483	178	168	1298	410	115	448	1070	1320	715	205	1590	1652	1137	330	703	781	779	2136	344	1010	446	743	472	919	317	318	259	1828		559	1668	2264	2138	192	442	ST. LOUIS, MO.
ST. LOUIS, MO.	467	400	779	1038	662	465	795	262	492	603	547	796	273	455	1034	1236	679	231	751	238	291	1589	242	1061	327	466	254	598	875	771	811	1272	559		1162	1744	1724	712	746	SALT LAKE CITY, UTAH
SALT LAKE CITY, UTAH	1583	1466	694	2099	1699	1616	371	1260	1568	1751	999	371	953	1492	689	403	1200	1356	1837	925	1148	579	1402	2089	1242	987	1393	1434	1972	1927	1925	504	1668	1162		600	701	1848	1906	SAN FRANCISCO, CALIF.
SAN FRANCISCO, CALIF.	2139	2013	1265	2699	2300	2205	967	18																																



HENRY

HAS

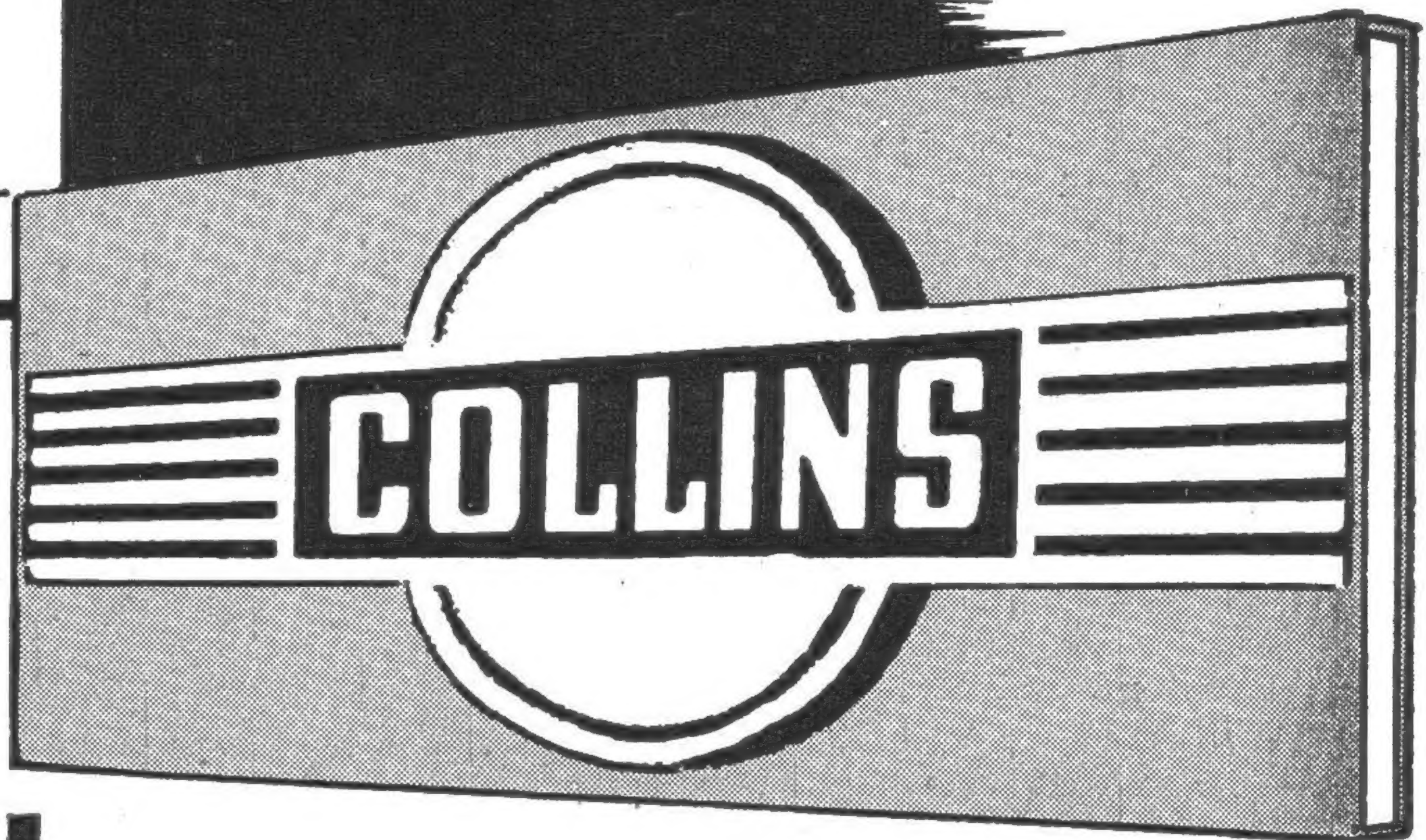
Henry Radio stores in Butler, Missouri and 11240 West Olympic Blvd., Los Angeles, California have complete stocks of all Collins amateur equipment for immediate delivery. Also complete stocks of all other amateur receivers, transmitters, and parts. I promise you that you can find nowhere else lower prices, more complete stocks, quicker delivery, easier terms or more generous trade-ins. I give you 10-day free trial and 90-day free service. I promise that you will be satisfied on every detail. Write, wire, phone or visit either store today.

Bob Henry
W4ARA

A FEW OF THE ITEMS WE STOCK ARE LISTED BELOW

National NC-33	57.50
National NC-57	89.50
National NC-173	189.50
National NC-183	268.00
National HRO-7	292.50
National HRO-7C	372.45
National HFS	142.00
Hallicrafters S38	39.95
Hallicrafters S-72 portable	79.95
Hallicrafters S40A	79.95
Hallicrafters SX-71	179.50
Hallicrafters SX43	159.50
Hallicrafters SX42	275.00
Hallicrafters SX62	269.50
Hallicrafters HT18	110.00
Hallicrafters HT19	359.50
RME HF-10-20	77.00
RME VHF-152A	86.60
RME DB22A	71.00
Hammarlund HQ-129X	177.30
Signal Shifter EX kit	49.75
Telvar T60-2	150.00
Harvey-Wells TBS-50	99.50
Harvey-Wells TBS-50A	121.25
Hunter 20A Cyclemaster	169.50
Subraco MT-15X	79.95
Hallicrafter & National TV sets	
Gonset, Silver, Meissner, Millen, Sonar, Stancor, Bud, Mon-Key, Vibroplex, B & W, Johnson, RCA, Gordon, Amphenol, Hy-Lite, Elinor, Workshop, Premax; I have everything for the amateur.	

Some prices higher on west coast.



FOR EXAMPLE:

Collins 75A-1 receiver	\$ 375.00
Collins 32V-2	575.00
Collins 30K-1	1450.00
Collins 70E-8	40.00
Collins 310C-1	85.00
Collins 310C-2	100.00
Collins 310B-1	190.00
Collins 310B-3	215.00

COMPLETE STOCKS

Henry has *everything* in the ham field.

QUICK DELIVERY

Shipments 4 hours after receipt of order. Send \$5.00 with order and shipment will be made at once C.O.D.

TRADE-INS

You can't beat Bob Henry for trade-ins. Write, wire or phone today about your equipment and Bob Henry will make you a better offer than you can get anywhere else.

TIME PAYMENT

Because Bob Henry finances the terms himself you get a better break. Save time and money, deal with Bob Henry on his personal, profitable time payment plan.

Butler, Missouri

HENRY RADIO STORES

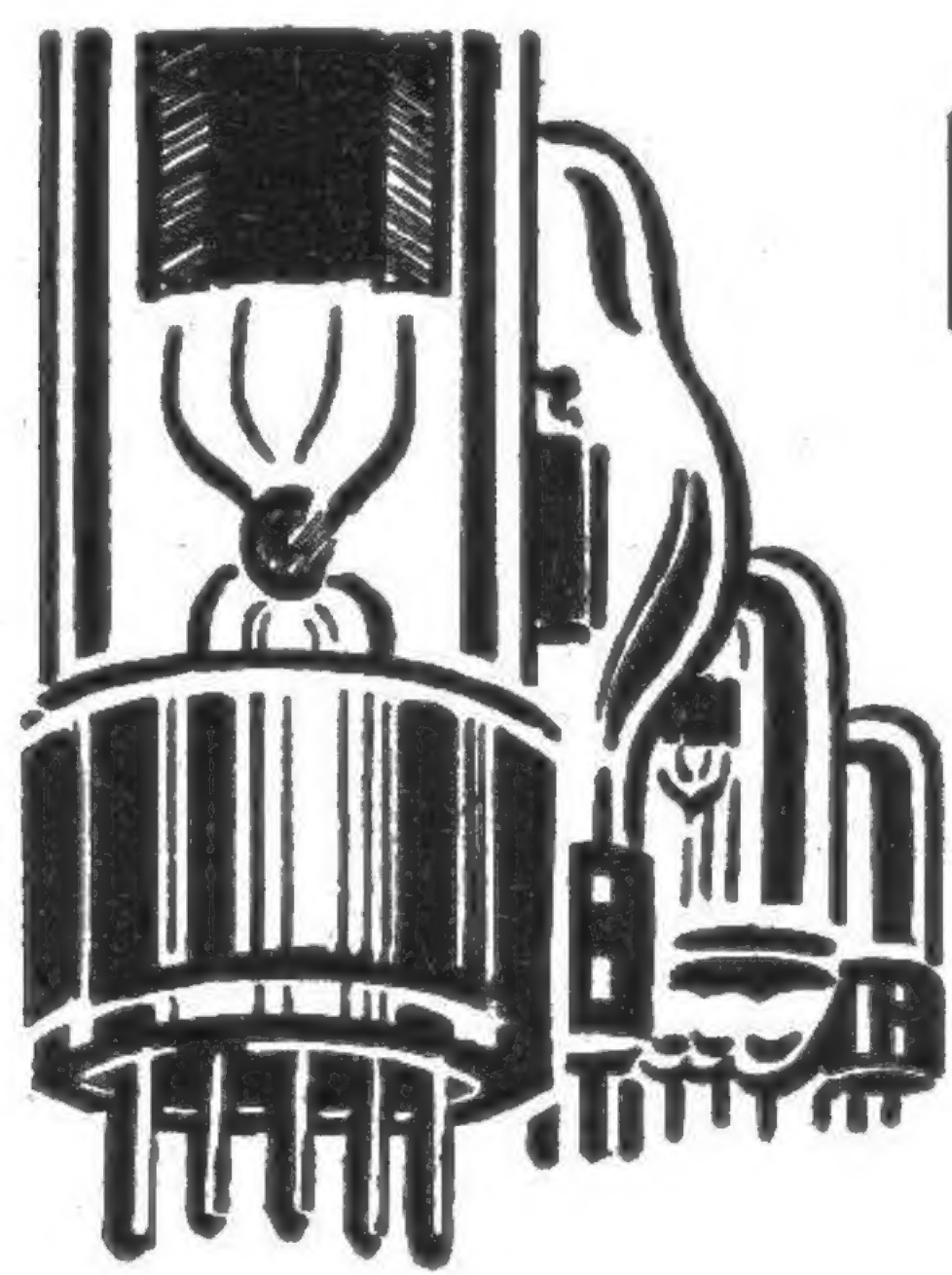
11240 Olympic Blvd.
LOS ANGELES 25
CALIF.

"WORLD'S LARGEST DISTRIBUTORS OF SHORT WAVE RECEIVERS"

INTERNATIONAL RADIO AMATEUR PREFIXES

The following prefixes are listed in alphabetical order for convenience in locating the country when DX calls are heard. Figures in parentheses () show the amount of postage required when mailing from the United States and possessions. The first figure is for letters, (first ounce or fraction), and the second figure for post cards or QSL cards.

AC3 (5, 3)	SIKKIM	KG6I (3, 1)	IWO JIMA ISLAND	VO (3, 2)	NEWFOUNDLAND & LABRADOR
AC4 (5, 3)	TIBET	KG6S (3, 1)	SAIPAN ISLAND	VP1 (5, 3)	BRITISH HONDURAS
AP (5, 3)	PAKISTAN	KG6T (3, 1)	TINIAN ISLAND	VP2 (5, 3)	LEEWARD & WINDWARD ISLANDS
AR8 (5, 3)	LEBANON REPUBLIC	KH6 (3, 1)	HAWAIIAN ISLANDS	VP3 (5, 3)	BRITISH GUIANA
C (5, 3)	CHINA	KJ6 (3, 1)	JOHNSTON ISLAND	VP4 (5, 3)	TRINIDAD & TOBAGO IS.
CE (3, 2)	CHILE	KL7 (3, 1)	ALASKA	VP5 (5, 3)	JAMAICA, CAYMAN, TURKS & CAICOS IS.
CM-CO (3, 2)	CUBA	KM6 (3, 1)	MIDWAY ISLAND	VP6 (5, 3)	BARBADOS
CN8 (5, 3)	FRENCH MOROCCO	KP4 (3, 1)	PUERTO RICO	VP7 (5, 3)	BAHAMA ISLANDS
CP (3, 2)	BOLIVIA	KP6 (3, 1)	PALMYRA & JARVIS ISLANDS	VP8 (5, 3)	FALKLAND ISLANDS, South Georgia, South Orkney and South Shetland Islands.
CR4 (5, 3)	CAPE VERDE ISLANDS	KR6 (3, 1)	OKINAWA	VP9 (5, 3)	BERMUDA ISLANDS
CR5 (5, 3)	PORTUGUESE GUINEA	KS4 (3, 1)	SWAN ISLAND	VQ1 (5, 3)	ZANZIBAR
CR6 (5, 3)	ANGOLA	KS6 (3, 1)	U. S. SAMOA	VQ2 (5, 3)	NORTHERN RHODESIA
CR7 (5, 3)	MOZAMBIQUE	KV4 (3, 1)	VIRGIN ISLANDS	VQ3 (5, 3)	TANGANYIKA TERRITORY
CR8 (5, 3)	GOA (Portuguese India)	KW6 (3, 1)	WAKE ISLAND	VQ4 (5, 3)	KENYA
CR9 (5, 3)	MACAU	KX6 (5, 3)	MARSHALL ISLANDS	VQ5 (5, 3)	UGANDA
CR10 (5, 3)	TIMOR ISLAND (Port.)	KZ5 (3, 1)	CANAL ZONE	VQ6 (5, 3)	BRITISH SOMALILAND
CT1 (5, 3)	PORTUGAL	LA (5, 3)	NORWAY	VQ8 (5, 3)	CHAGOS & MAURITIUS ISLANDS
CT2 (5, 3)	AZORES ISLANDS	LI (5, 3)	LIBYA	VQ9 (5, 3)	SEYCHELLES
CT3 (5, 3)	MADERIA ISLANDS	LU (3, 2)	ARGENTINA	VR1 (5, 3)	GILBERT, ELLICE & OCEAN ISLANDS
CX (3, 2)	URUGUAY	LX (5, 3)	LUXEMBOURG	VR2 (5, 3)	FIJI ISLANDS
DL (5, 3)	GERMANY	LZ (5, 3)	BULGARIA	VR3 (5, 3)	FANNING ISLAND
DU (3, 2)	PHILIPPINE ISLANDS	MB9 (5, 3)	AUSTRIA	VR4 (5, 3)	SOLOMON ISLANDS
EA (3, 2)	SPAIN	MD1 (5, 3)	CIRENAICA	VR5 (5, 3)	TONGA (Friendly) ISLAND
EA6 (3, 2)	BALEARIC ISLANDS	MD2 (5, 3)	TRIPOLITANIA	VR6 (5, 3)	PITCAIRN ISLAND
EA8 (3, 2)	CANARY ISLANDS	MD3 (5, 3)	ERITREA	VS1 (5, 3)	SINGAPORE
EA9 (3, 2)	SPANISH MOROCCO	MD4 (5, 3)	SOMALIA	VS2 (5, 3)	MALAYAN UNION
EI (5, 3)	IRELAND	MD5 (5, 3)	SUEZ CANAL ZONE	VS4 (5, 3)	BRITISH NORTH BORNEO
EK1 (5, 3)	TANGIER ZONE	MD6 (5, 3)	IRAQ	VS5 (5, 3)	BRUNEI & SARAWAK
EL (5, 3)	LIBERIA	NY4 (3, 1)	GUANTANAMO BAY, CUBA	VS6 (5, 3)	HONG KONG
EP, EQ (5, 3)	IRAN (ex Persia)	OA (3, 2)	PERU	VS7 (5, 3)	CEYLON
ET (5, 3)	ETHIOPIA	OH (5, 3)	FINLAND	VS9 (5, 3)	ADEN & SOCOTRA ISLANDS
F (5, 3)	FRANCE	OE (5, 3)	AUSTRIA	VU (5, 3)	INDIA
FA (5, 3)	ALGERIA	OK (5, 3)	CZECHOSLOVAKIA	VU4 (5, 3)	LACCADIVE ISLANDS
FB8 (5, 3)	MADAGASCAR	ON (5, 3)	BELGIUM	VU5 (5, 3)	ANDAMAN ISLANDS
FD8 (5, 3)	FRENCH TOGOLAND	OQ5 (5, 3)	BELGIAN CONGO	VU7 (5, 3)	BAHREIN ISLANDS
FE8 (5, 3)	FRENCH CAMEROONS	OX (5, 3)	GREENLAND	W (3, 1)	UNITED STATES
FF8 (5, 3)	FRENCH WEST AFRICA	OY (5, 3)	FAEROES ISLANDS	XE (3, 2)	MEXICO
FG8 (5, 3)	GUADELOUPE	OZ (5, 3)	DENMARK	XZ (5, 3)	BURMA
FI8 (5, 3)	FRENCH INDO-CHINA	PA, PI (5, 3)	NETHERLANDS	YA (5, 3)	AFGHANISTAN
FK8 (5, 3)	NEW CALEDONIA	PI (5, 3)	NETH. WEST INDIES	YI (5, 3)	IRAQ
FL8 (5, 3)	FRENCH SOMALILAND	PK1, 2, 3 (5, 3)	JAVA	YJ (5, 3)	NEW HEBRIDES
FM8 (5, 3)	MARTINIQUE	PK4 (5, 3)	SUMATRA	YK (5, 3)	SYRIA
FN (5, 3)	FRENCH INDIA	PK5 (5, 3)	BORNEO (Neth. Indies)	YN (3, 2)	NICARAGUA
FO8 (5, 3)	TAHITI	PK6 (5, 3)	CELEBES & MOLUCCA IS., &	YR (5, 3)	ROUMANIA
FP8 (5, 3)	MIQUELON & ST. PIERRE IS.	PK7 (5, 3)	NETHERLAND NEW GUINEA	YS (3, 2)	SALVADOR
FQ8 (5, 3)	FRENCH EQUATORIAL AFRICA	PX (5, 3)	ANDORRA	YT, YU (5, 3)	YUGOSLAVIA
FR8 (5, 3)	REUNION ISLAND	PY (3, 2)	BRAZIL	YV (3, 2)	VENEZUELA
FT4 (5, 3)	TUNISIA	PZ (5, 3)	SURINAM	ZA (5, 3)	ALBANIA
FU8 (5, 3)	NEW HEBRIDES	SM (5, 3)	SWEDEN	ZB1 (5, 3)	MALTA
FY8 (5, 3)	FRENCH GUIANA	SP (5, 3)	POLAND	ZB2 (5, 3)	GIBRALTAR
G (5, 3)	ENGLAND	ST (5, 3)	SUDAN	ZC1 (5, 3)	TRANSJORDAN
GC (5, 3)	CHANNEL ISLANDS	SU (5, 3)	EGYPT	ZC2 (5, 3)	COCOS ISLANDS
GD (5, 3)	ISLE OF MAN	SV (5, 3)	CRETE & GREECE	ZC3 (5, 3)	CHRISTMAS ISLAND
GI (5, 3)	NORTHERN IRELAND	SV5 (5, 3)	DODECANESE ISLANDS	ZC4 (5, 3)	CYPRUS
GM (5, 3)	SCOTLAND	TA (5, 3)	TURKEY	ZC6 (5, 3)	ISRAEL
GW (5, 3)	WALES	TF (5, 3)	ICELAND	ZD1 (5, 3)	SIERRA LEONE
HA (5, 3)	HUNGARY	TG (3, 2)	GUATEMALA	ZD2 (5, 3)	NIGERIA
HB (5, 3)	SWITZERLAND	TI (3, 2)	COSTA RICA	ZD3 (5, 3)	GAMBIA
HC (3, 2)	ECUADOR	TR (5, 3)	LIBYA	ZD4 (5, 3)	GOLD COAST & TOGOLAND
HE1 (5, 3)	LIECHTENSTEIN	UA1-3-4-6 (5, 3)	EUROPEAN RUSSIAN SOCIALIST FEDERATED SOVIET REPUBLIC	ZD6 (5, 3)	NYASALAND
HH (3, 2)	HAITI	UA9-φ (5, 3)	ASIATIC RUSSIAN S. F. S. R.	ZD7 (5, 3)	SAINT HELENA
HI (3, 2)	DOMINICAN REPUBLIC	UB5 (5, 3)	UKRAINE	ZD8 (5, 3)	ASCENSION ISLAND
HK (3, 2)	COLOMBIAN REPUBLIC	UC5 (5, 3)	WHITE RUSSIAN S.S.R.	ZD9 (5, 3)	TRISTAN DA CUNHA
HL1 (5, 3)	KOREA	UD6 (5, 3)	AZERBAIJAN	ZE (5, 3)	SOUTHERN RHODESIA
HP (3, 2)	PANAMA	UF6 (5, 3)	GEORGIA	ZK1 (5, 3)	COOK ISLANDS
HR (3, 2)	HONDURAS	UG6 (5, 3)	ARMENIA	ZK2 (5, 3)	NIUE
HS (5, 3)	SIAM	UH8 (5, 3)	TURKOMAN	ZL (5, 3)	NEW ZEALAND
HZ (5, 3)	SAUDI ARABIA	UI8 (5, 3)	UZBEK	ZM (5, 3)	WESTERN SAMOA
I (5, 3)	ITALY	UJ8 (5, 3)	TADZHIK	ZP (3, 2)	PARAGUAY
I6 (5, 3)	ERITREA	UL7 (5, 3)	KAZAKH	ZS (5, 3)	UNION OF SOUTH AFRICA
J (5, 3)	JAPAN	UM8 (5, 3)	KIRGHIZ		
J9 (3, 1)	OKINAWA	UN1 (5, 3)	KARELO-FINNISH REPUBLIC		
K (3, 1)	UNITED STATES	UO5 (5, 3)	MOLDAVIA		
KA (3, 2)	PHILIPPINE ISLANDS	UP (5, 3)	LITHUANIA		
KB6 (5, 3)	BAKER, CANTON, ENDERBURY, HOWLAND & PHOENIX ISLANDS	UQ (5, 3)	LATVIA		
KC4 (5, 3)	ANTARCTICA	UR (5, 3)	ESTONIA		
KC6 (3, 1)	CAROLINE ISLANDS	VE (3, 2)	CANADA		
KG6 (3, 1)	MARIANA ISLANDS (Guam)	VK (5, 3)	AUSTRALIA		
		VK7 (5, 3)	TASMANIA		
		VK9 (5, 3)	PAPUA TERRITORY		



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TYPE	PRICE	TYPE	PRICE	TYPE	PRICE	TYPE	PRICE
01A	\$ 0.50	30/VT-67 (For Walkie		700D	9.95	865	2.55
0Z4	1.05	Talkies)	.95	702A	2.95	866A	1.40
1B22	5.55	33/VT-33 (For Walkie		704A	1.95	869B	28.95
1R4/1294	.65	Talkies)	.95	705A	2.65	872A	2.45
1R5	1.12	34	.35	707A	19.50	874	2.15
1S5	1.12	RK-34	.45	707B	23.25	884	1.50
1T4	1.12	36	.55	710A	2.15	954	.55
2C26	.55	37	.55	714AY	9.95	955	.55
2C26A	.70	38	.55	RK-715B	7.95	956	.55
2C44	1.25	39/44	.34	717A	.90	957	.55
2J22	14.85	41	.55	721A	3.95	1005	.45
2J31	14.85	45 Spec. VT-52	.55	724B	4.25	1148	.40
2J32	14.85	46	.85	725A	19.95	1201	.95
2J38	18.95	49	.75	726A	19.95	1616	1.25
2J48	16.55	EF50/VT-250	.65	801	.60	1619	.55
2X2/879	.75	RK60/1641	.65	801A	.80	1624	1.25
3A5	1.10	72	1.10	803	7.75	1625	.45
3B22	3.95	CEQ-72	1.55	804	10.45	1626	.45
3B25	1.15	76	.55	805	5.75	1629	.45
3BP1	3.75	77	.55	807	1.20	1636	4.75
3C24/24G	.49	VR-78	.68	810	7.95	2050	.78
3D6/1299	1.25	80	.41	811	2.35	2051	.95
3E29/829B	3.95	83	.85	813	7.85	7193	.35
3FP7	2.95	83V	.95	814	3.75	8011	2.55
3HP7	2.95	VR-90	.70	815	2.85	8012	4.35
3Q5	.95	VT-90/8011	2.55	826	.49	8020	3.25
REL-5	19.95	VR-92	.65	829	3.25	9001	.70
5AP1	3.75	100R	3.45	829B	3.95	9002	.65
5BP1	2.85	FG-105	10.95	830B	3.75	9003	.55
5BP4	3.95	VR-105	.90	832A	3.50	9004	.55
5CP1	3.85	VT-127 English	.35	837	1.25	9006	.55
5GP1	6.55	VT-127 A Triode	2.55	838	3.25		
5J23	14.85	VR-150	.70	841	.55	Neon Bulbs for Radio Use NE-2 Price Ea. \$ 0.06 NE-1506 NE-4824 NE-1624 NE-5106	
5J29	14.85	VT-158	9.85	843	.55		
6AC7	.95	211	.65	851	39.50		
6B7	.99	215A	1.95	WL-860	2.55		
6C6	.75	218	4.45	861	34.50		
6C8G	1.05	249C	2.95	864	.55		
6C21	19.95	282B	4.35				
6D6	.60	304TH	6.55				
6F8G	1.05	304TL	.90				
6H6	.52	316A/VT-191	.75				
6J5	.52	350B	2.55				
6L7	.90	371B	2.55				
6SG7	.95	388A	6.45				
6SL7	.65	417A	19.85				
6SN7GT	.85	GL434A	4.95				
7A7	.70	446A	1.55				
7C4/1203	.45	446B	1.55				
10/VT-25	.52	GL471A	2.95				
12A6	.35	WL-530	24.95				
12C8	.35	WL-531	19.95				
12SG7	.68	532A	3.55				
12X825, 2 amp. Tungar	2.95	GL-559	3.75				
FG-17	2.95	KU-610	7.45				
RK20A	4.95	Hy-615	1.25				
REL-21	3.65	WL-681	19.95				
23D4 Ballast	.35	700B	9.95				
28D7	.45	700C	9.95				

Pilot and Flashlight Bulbs

STOCK NO.	MAZDA NO.	VOLTS	WATTS	BULB	BASE	PRICE EA.
350-40	64	6-8	E3 CP	G-6	DC Bay	\$0.07
350-50	1820	28	.1 Amp.	T-3 ½	Min. Bay	.12
350-31	57	12-16	1.5 CP	G-4 ½	Min. Bay	.08
350-42	Spec.	12	6 Watts	S-6	Cand. Scr.	.13
350-20	1448	12	.2 Amp.	G-3 ½	Min. Scr.	.07
350-14	49	2	.08	T-3 ½	Min. Bay	.06
350-15	386	120	3 Watts	S-6	Cand. Bay	.11
348-22	PR-10	6	.5 Amp.	B-3 ½	Min. Flang	.05
350-18	1477	24	.17 Amp.	T-3	Min. Scr.	.16
350-55	323	3	(AIRCRAFT)	T-1 ½	953	.22
350-19	Proj. Bulb	120	500 Watts	T-20	Med. Pf.	1.45
LB-103	44 (Ruby)	6-8	.25 Amp.	T-3 ½	Min. Bay	.04
LB-102	1195	12-16	50 CP	RP-11	DC Bay	.14
LB-104	313	28	.17 Amp.	T-3 ½	Min. Bay	.11
350-24	12A	12	.09 Amp. 11	T-2	Tel Base	.18
LB-107	24-A2 W E	24	.75 Amp. 105	T-2	Tel Base	.18
350-63	S-14 ARGON	105	2 ½ Watt	Med.	Screw	.22
LR-109	TELEPHON TYPE NEON			T-2		.17
350-41	943	6-8	100 CP	G-16 ½	S.C. Pref.	.65
350-43	11A/T4C	18	.11 Amp.	T-4	Cand. Scr.	.14

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PREFIXES—BY COUNTRIES

The following countries listed in alphabetical order by country show international radio amateur prefixes. Characters in () designate the continent and zone in which the country is located. Abbreviations are as follows: A—Asia, AF—Africa, E—Europe, NA—North America, O—Oceania, SA—South America.

ADEN	(A-21)	VS9
AFGHANISTAN	(A-21)	YA
ALASKA	(NA-1)	KL7
ALBANIA	(E-15)	ZA
ALGERIA	(AF-33)	FA
ANDORRA	(E-14)	PX
ANGLO-EGYPTIAN SUDAN	(AF-34)	ST
ANGOLA	(AF-36)	CR6
ARGENTINA	(SA-13)	LU
ASCENSION ISLAND	(AF-36)	ZD8
AUSTRALIA	(O-29 & 30)	VK
AUSTRIA	(E-15)	OE
AZORES ISLANDS	(E-14)	CT2

BAHAMA ISLANDS	(NA-8)	VP7
BAHREIN ISLAND	(A-21)	VU7
BAKER ISLAND	(O-31)	KB6
BALEARIC ISLANDS	(E-14)	EA6
BARBADOS	(NA-8)	VP6
BASUTOLAND	(AF-38)	ZS4
BELGIAN CONGO	(AF-36)	OQ
BELGIUM	(E-14)	ON
BERMUDA ISLANDS	(NA-5)	VP9
BOLIVIA	(SA-10)	CP
BORNEO (Br. North)	(O-28)	VS4
BORNEO (Neth. Indies)	(O-28)	PK5
BRAZIL	(SA-11)	PY
BRITISH HONDURAS	(NA-7)	VP1
BRUNEI	(O-28)	VS5
BULGARIA	(E-20)	LZ
BURMA	(A-26)	XZ

CAMEROONS, British	(AF-36)	ZD2
CAMEROONS, French	(AF-36)	FE8
CANADA	(NA-1 to 5)	VE
CANAL ZONE	(NA-7)	KZ5
CANARY ISLANDS	(AF-33)	EA8
CANTON ISLAND	(O-31)	KB6
CAPE VERDE ISLANDS	(AF-35)	CR4
CAROLINE ISLANDS	(O-27)	KC6
CAYMAN ISLANDS	(NA-8)	VP5
CELEBES	(O-28)	PK6
CEYLON	(A-22)	VS7
CHAGOS ISLANDS	(AF-39)	VQ8
CHANNEL ISLANDS	(E-14)	GC
CHILE	(SA-12)	CE
CHINA	(A-23 & 24)	C
CHRISTMAS ISLAND	(O-31)	ZC3
COCOS ISLAND	(NA-7)	TI
COCOS ISLANDS	(O-29)	ZC2
COLOMBIA	(SA-9)	HK
COOK ISLANDS	(O-32)	ZK1
COSTA RICA	(NA-7)	TI
CRETE	(E-20)	SV
CUBA	(NA-8)	CM, CO
CYPRUS	(A-20)	ZC4
CZECHOSLOVAKIA	(E-15)	OK

DENMARK	(E-14)	OZ
DOECANESE ISLANDS	(E-20)	SV5
DOMINICAN REPUBLIC	(NA-8)	HI

ECUADOR	(SA-10)	HC
EGYPT	(AF-34)	SU
ELLICE ISLANDS	(O-31)	VR1
ENGLAND	(E-14)	G
ERITREA	(AF-37)	16
ETHIOPIA	(AF-37)	ET

FAEROES, The	(E-14)	OY
FALKLAND ISLANDS	(SA-13)	VP8
FANNING ISLAND	(O-31)	VR3
FIJI ISLANDS	(O-32)	VR2
FINLAND	(E-15)	OH
FRANCE	(E-14)	F
FR. EQUATORIAL AFRICA	(AF-36)	FQ8
FRENCH INDIA	(A-22)	FN
FRENCH INDO-CHINA	(A-26)	F18
FRENCH OCEANIA	(O-32)	FO8
FRENCH WEST AFRICA	(AF-35)	FF8

GAMBIA	(AF-35)	ZD3
GERMANY	(E-14)	DL
GIBRALTAR	(E-14)	ZB2
GILBERT ISLANDS	(O-31)	VR1
GOA (Portuguese India)	(A-22)	CR8
GOLD COAST	(AF-35)	ZD4

GREECE	(E-20)	SV
GREENLAND	(NA-40)	OX
GUADELOUPE	(NA-8)	FG8
GUAM	(O-27)	KG6
GUANTANAMO BAY	(NA-8)	NY4
GUATEMALA	(NA-7)	TG
GUIANA, BRITISH	(SA-9)	VP3
GUIANA, FRENCH	(SA-9)	FY8
GUIANA, NETHERLANDS	(SA-9)	PZ
GUINEA, PORTUGUESE	(AF-35)	CR5
HAITI	(NA-8)	HH
HAWAIIAN ISLANDS	(O-31)	KH6
HONDURAS	(NA-7)	HR
HONG KONG	(A-24)	VS6
HOWLAND ISLAND	(O-31)	KB6
HUNGARY	(E-15)	HA

ICELAND	(E-40)	TF
INDIA	(A-21)	VU
IRAN	(A-21)	EP, EQ
IRAQ	(A-21)	YI
IRELAND	(E-14)	EI
ISLE OF MAN	(E-14)	GD
ISRAEL	(A-20)	ZC6
ITALY	(E-15)	I
IWO JIMA ISLAND	(O-25)	KG6I

JAMAICA	(NA-8)	VP5
JAN MAYEN ISLAND	(E-40)	OY
JAPAN	(A-25)	J
JARVIS ISLAND	(O-31)	KP6
JAVA	(O-28)	PK1, 2, 3
JOHNSTON ISLAND	(O-31)	KJ6

KENYA	(AF-37)	VQ4
KOREA	(A-25)	HL1
LABRADOR	(NA-2)	VO
LACCADIVE ISLANDS	(A-22)	VU4
LEBANON REPUBLIC	(A-20)	AR8
LEEWARD ISLANDS	(NA-8)	VP2
LIBERIA	(AF-35)	EL
LIBYA	(AF-34)	TR
LIECHTENSTEIN	(E-14)	HE1
LITTLE AMERICA	(SA-13)	KC4
LUXEMBOURG	(E-14)	LX

MACAU	(A-24)	CR9
MADAGASCAR	(AF-39)	FB8
MADEIRA ISLANDS	(AF-33)	CT3
MALAYA	(A-28)	VS1, 2
MALDIVES ISLANDS	(A-22)	VS9
MALTA	(E-15)	ZB1
MARIANAS ISLANDS	(O-27)	KG6
MARSHALL ISLANDS	(O-31)	KX6
MARTINIQUE	(NA-8)	FM8
MAURITIUS	(AF-39)	VQ8
MEXICO	(NA-6)	XE
MIDWAY ISLAND	(O-31)	KM6
MIQUELON ISLAND	(NA-5)	FP8
MOROCCO, French	(AF-33)	CN
MOROCCO, Spanish	(AF-33)	EA9
MOZAMBIQUE	(AF-37)	CR7

NETHERLANDS	(E-14)	PA
NETHERLAND W. INDIES	(SA-9)	PJ
NEW CALEDONIA	(O-32)	FK8
NEWFOUNDLAND	(NA-5)	VO
NEW GUINEA, Netherlands	(O-28)	PK6
NEW GUINEA, Territory of	(O-28)	VK9
NEW HEBRIDES	(O-32)	FU8, YJ
NEW ZEALAND	(O-32)	ZL
NICARAGUA	(NA-7)	YN
NIGERIA	(AF-35)	ZD2
NIUE	(O-32)	ZK2
NORTHERN IRELAND	(E-14)	GI
NORWAY	(E-14)	LA
NYASALAND	(AF-37)	ZD6

OKINAWA	(A-25)	KR6
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PAKISTAN	(A-21, 22)	
PANAMA	(NA-7)	HP
PAPUA TERRITORY	(O-28)	VK9
PARAGUAY	(SA-11)	ZP
PERU	(SA-10)	OA
PHILIPPINE ISLANDS	(O-27)	DU
PITCAIRN ISLAND	(O-32)	VR6
POLAND	(E-15)	SP

PORTUGAL	(E-14)	CT1
PUERTO RICO	(NA-8)	KP4

REUNION ISLAND	(AF-39)	FR8
RHODESIA, NORTHERN	(AF-36)	VQ2
RHODESIA, SOUTHERN	(AF-38)	ZE
ROUMANIA	(E-20)	YR
RYUKYU ISLANDS	(A25)	KR6

SAINT HELENA	(AF-36)	ZD7
SAIPAN ISLAND	(O-27)	KG6S
SALVADOR	(NA-7)	YS
SAMOA (U.S.)	(O-32)	KS6
SAMOA (Western)	(O-32)	ZM
SARAWAK	(O-28)	VS5
SAUDI ARABIA	(A-21)	HZ
SCOTLAND	(E-14)	GM
SEYCHELLES	(AF-39)	VQ9
SIAM	(A-26)	HS
SIERRA LEONE	(AF-35)	ZD1
SIKKIM	(A-22)	AC3
SOCOTRA ISLAND	(AF-37)	VS9
SOLOMON ISLANDS	(O-28)	VR4
SOMALILAND, British	(AF-37)	VQ6
SOMALILAND, French	(AF-37)	FL8
SOUTH GEORGIA	(SA-13)	VP8
SOUTH ORKNEY ISLANDS	(SA-13)	VP8
SOUTH SANDWICH ISLANDS	(SA-13)	VP8
SOUTH SHETLAND ISLANDS	(SA-13)	VP8
SOUTHWEST AFRICA	(AF-38)	ZS3

SOVIET UNION:
EUROPEAN RUSSIAN SOCIALIST

FEDERATED SOVIET REP.	(E-16)	UA1, 3, 4, 6
ASIATIC RUSSIAN S.F.S.R.	(A-18, 19)	UA9, 0
UKRAINE	(E-16)	UB5
WHITE RUSSIAN S.S.R.	(E-16)	UC
AZERBAIJAN	(A-21)	UD6
GEORGIA	(A-21)	UF6
ARMENIA	(A-21)	UG6
TURKOMAN	(A-17)	UH8
UZBEK	(A-17)	UI8
TADZHIK	(A-17)	UJ8
KAZAKH	(A-17)	UL7
KIRGHIZ	(A-17)	UM8
KARELO-FINNISH REP.	(E-16)	UN1
MOLDAVIA	(E-16)	UO5
LITHUANIA	(E-15)	UP
LATVIA	(E-15)	UQ
ESTONIA	(E-15)	UR
SPAIN	(E-14)	EA
SUMATRA	(O-28)	PK4
SWAN ISLAND	(NA-7)	KS4
SWEDEN	(E-14)	SM
SWITZERLAND	(E-14)	HB
SYRIA	(A-20)	YK

TANGANYIKA	(AF-37)	VQ3
TANGIER ZONE	(AF-33)	EK
TIBET	(A-23)	AC4
TIMOR, Portuguese	(O-28)	CR10
TINIAN ISLAND	(O-27)	KG6T
TOGOLAND, French	(AF-35)	FD8
TONGA (Friendly) ISLANDS	(O-32)	VR5
TRANSJORDAN	(A-20)	ZC1
TRINIDAD & TOBAGO	(SA-9)	VP4
TRISTAN da CUNHA & COUGH ISLAND	(AF-38)	ZD9
TUNISIA	(AF-33)	FT4
TURKEY	(A-20)	TA
TURKS & CAICOS ISLANDS	(NA-8)	VP5

UGANDA	(AF-37)	VQ5
UNION OF SOUTH AFRICA	(AF-38)	ZS
UNITED STATES of AMERICA	(NA-3, 4, 5)	W, K
URUGUAY	(SA-13)	CX

VENEZUELA	(SA-9)	YV
VIRGIN ISLANDS	(NA-8)	KV4

WAKE ISLAND	(O-31)	KW6
WALES	(E-14)	GW
WINDWARD ISLANDS	(NA-8)	VP2

YUGOSLAVIA	(E-15)	YT, YU
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ZANZIBAR	(AF-37)	VQ1
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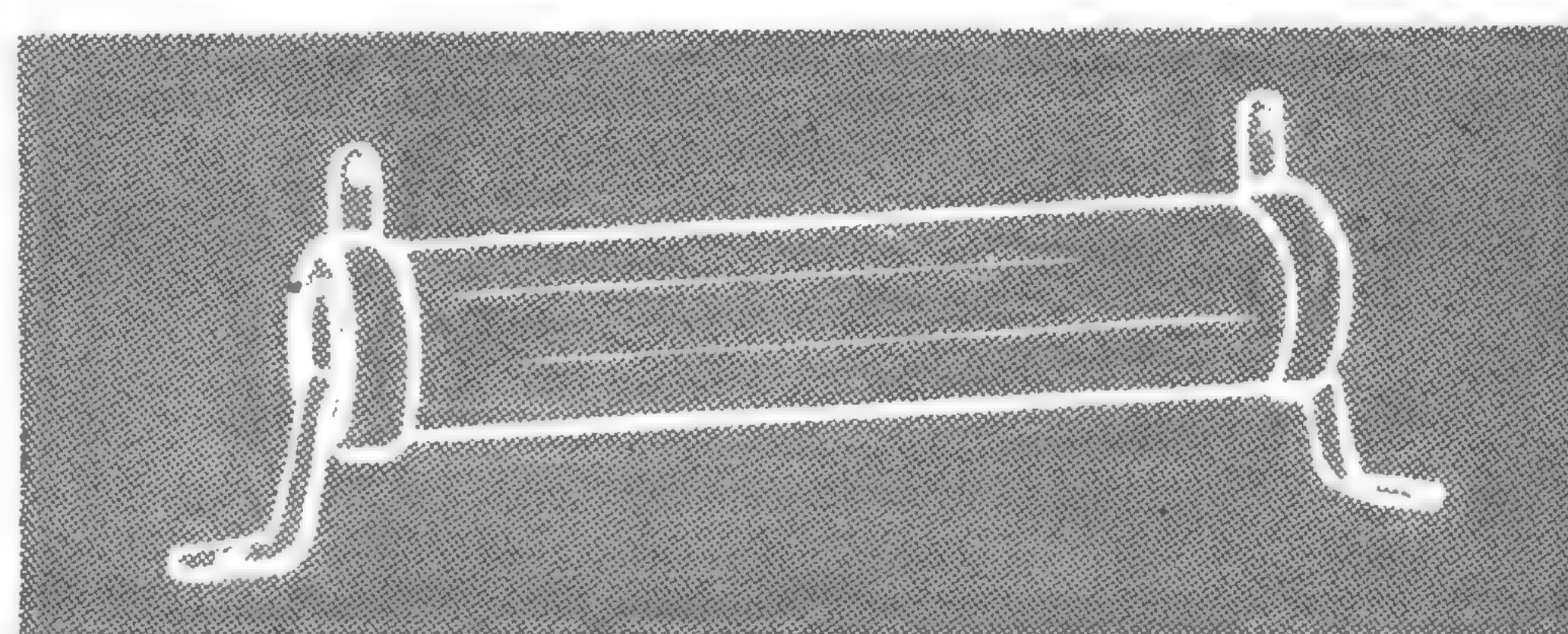
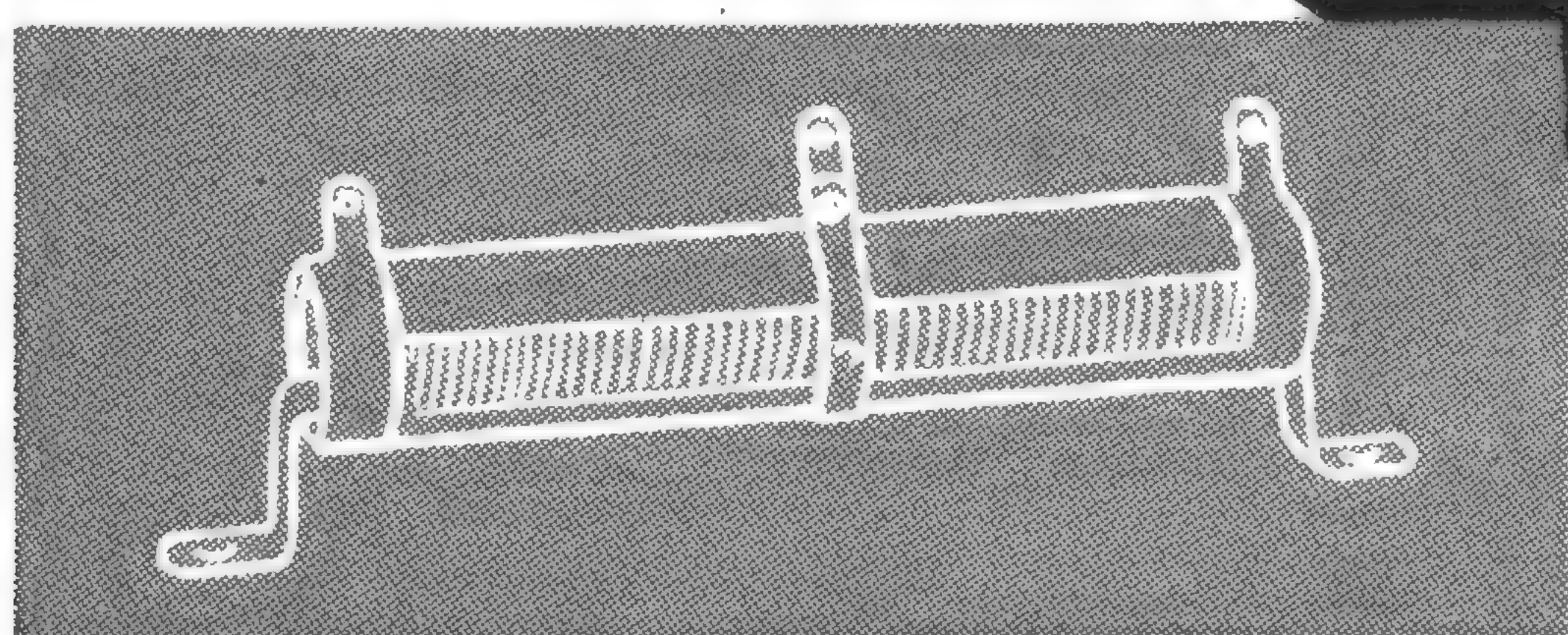
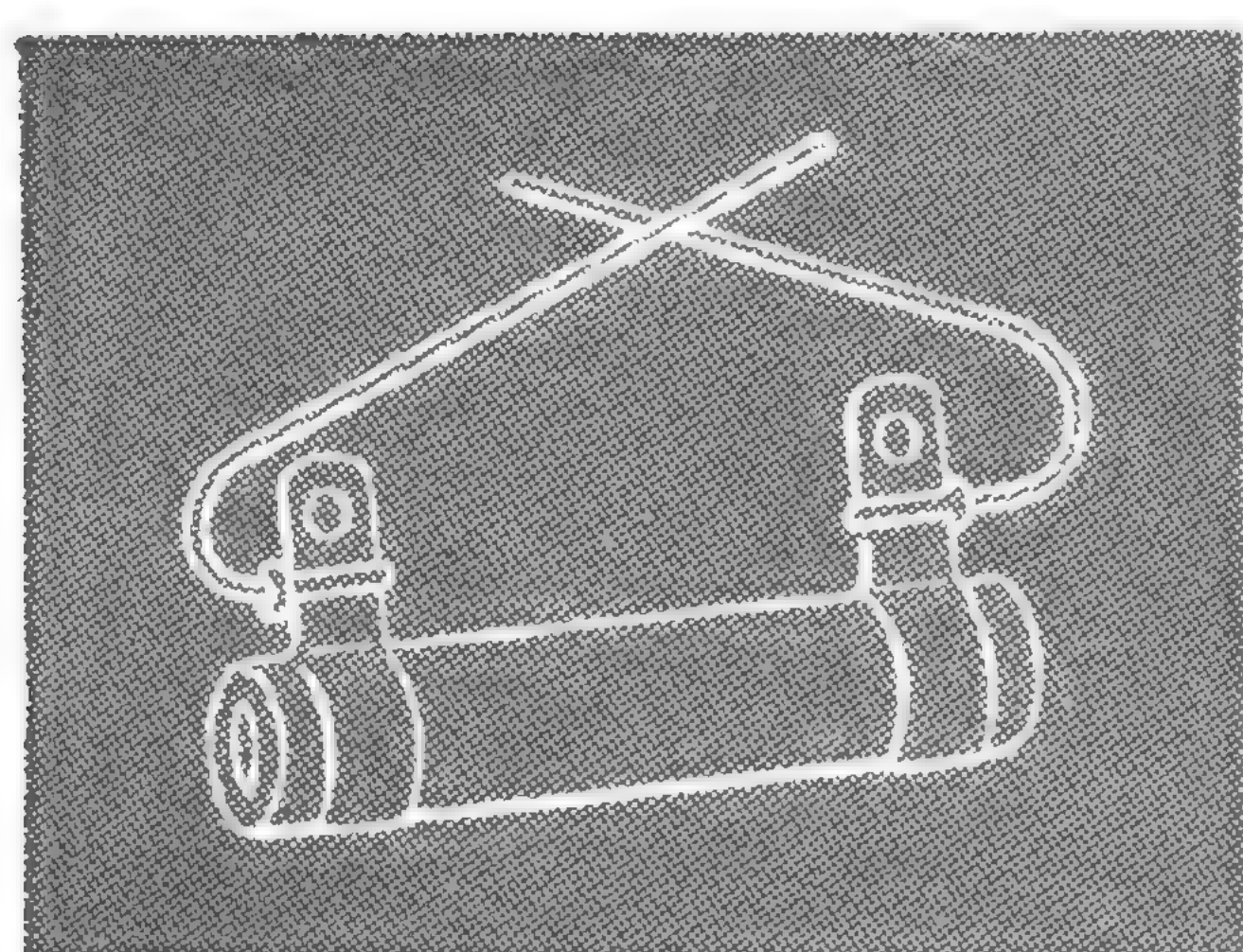
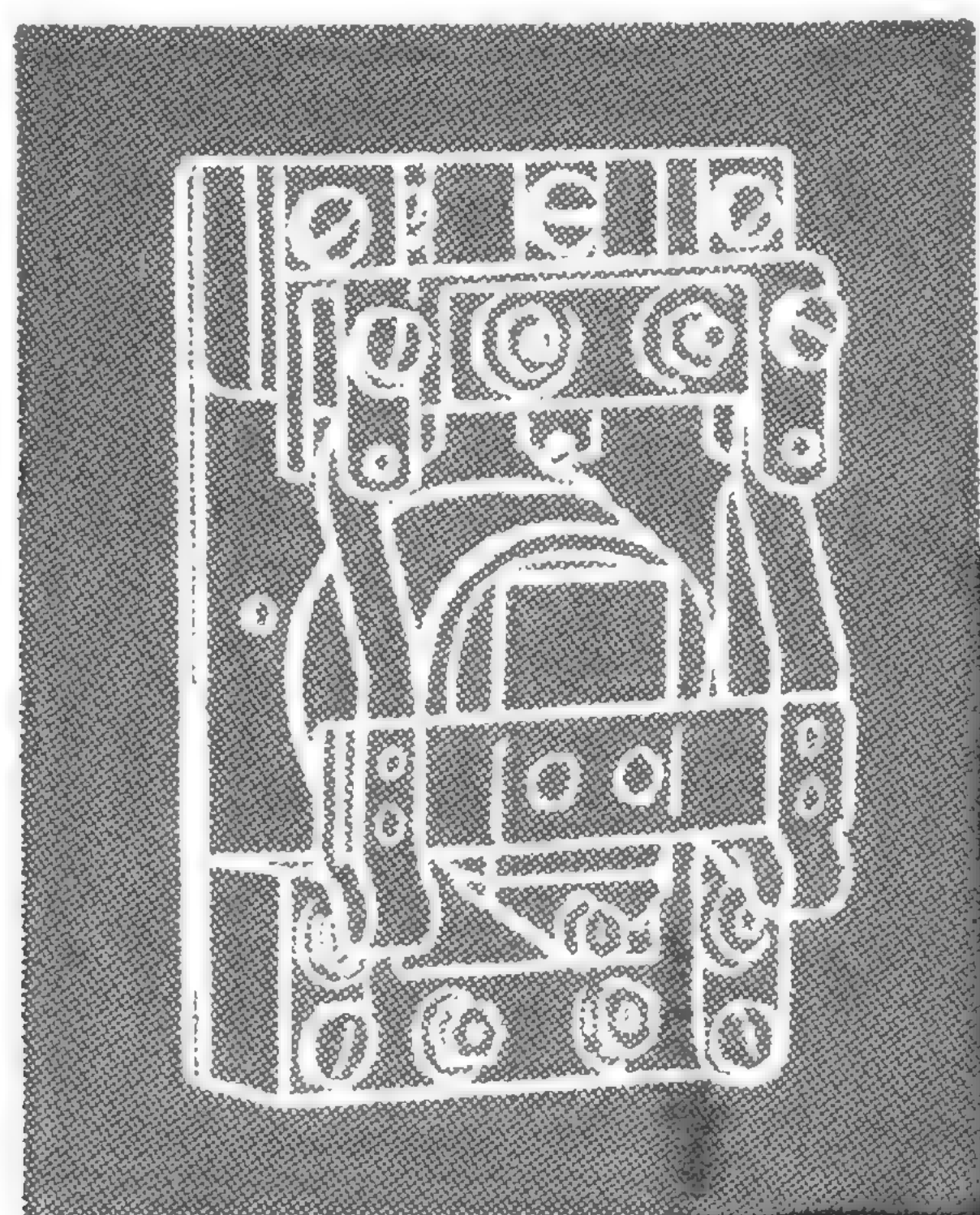
POSTAL INFORMATION

AIR MAIL TO FOREIGN COUNTRIES and UNITED STATES POSSESSIONS

COUNTRY	Rates per 1/2 oz.	COUNTRY	Rates per 1/2 oz.	COUNTRY	Rates per 1/2 oz.
ADEN	\$.25	FRENCH SETTLEMENTS IN INDIA	.25	PAKISTAN	.25
AFGHANISTAN	.25	FRENCH SOMALILAND	.25	PANAMA	.10
ALASKA	.06*	FRENCH SUDAN	.25	PAPUA (BR. NEW GUINEA)	.25
ALBANIA	.15	FRENCH TOGOLAND	.25	PARAGUAY, ASUNCION	.10
ALGERIA, ALGIERS	.15	GAMBIA	.25	PERU, LIMA	.10
ANDORRA	.15	GERMANY	.15	PHILIPPINE ISLANDS	.25
ANGLO-EGYPTIAN SUDAN	.25	GIBRALTAR	.15	POLAND	.15
ANGOLA, PORT. WEST AFRICA	.25	GILBERT AND ELLICE ISLAND	.25	PORTUGAL, LISBON	.15
ANGOILLA, WEST INDIES	.10	GOLD COAST COLONY	.25	PORTUGUESE EAST AFRICA	.25
ANTIGUA, ST. JOHNS	.10	GREECE	.15	PORTUGUESE GUINEA	.25
ARGENTINA, BUENOS AIRES	.10	GRENADA	.10	PORTUGUESE INDIA	.25
ARUBA, ARUBA	.10	GRENADINES	.10	PORTUGUESE TIMOR	.25
AUSTRALIA, SYDNEY	.25	GUADELOUPE	.10	PORTUGUESE WEST AFRICA	.25
AUSTRIA, VIENNA	.15	GUAM	.06*	PUERTO RICO, SAN JUAN	.06*
AZORES, SANTA MARIA	.15	GUATEMALA	.10		
BAHAMAS, NASSAU	.10	HAITI, PORT AU PRINCE	.10	REDONDA	.25
BAHREIN ISLANDS	.25	HAWAII, HONOLULU	.06*	REUNION ISLAND	.25
BALEARIC ISLANDS	.15	HONDURAS (REPUBLIC OF)	.10	RIO DE ORO	.25
BALUCHISTAN	.25	HONGKONG	.25	RUMANIA	.15
BARBADOS	.10	HUNGARY	.15	RYUKYU ISLANDS	.25
BARBUDA	.10	ICELAND, REYKJAVIK	.15	SABA (CURACAO)	.10
BECHUANALAND PROTECTORATE	.25	INDIA	.25	ST. CHRISTOPHER (LEEWARD)	.10
BELGIAN CONGO	.25	IRAN	.25	ST. EUSTATIUS (CURACAO)	.10
BELGIUM, BRUSSELS	.15	IRAQ	.25	ST. HELENA	.25
BERMUDA, HAMILTON	.10	ITALY, ROME	.15	ST. KITTS (LEEWARD)	.10
BOLIVIA, LA PAZ	.10	ITALIAN SOMALILAND	.25	ST. LUCIA (WINDWARD)	.10
BONAIRE	.10	IVORY COAST	.25	ST. MARTIN (CURACAO)	.10
BRAZIL, RIO DE JANEIRO	.10	JAMAICA, KINGSTON	.10	ST. PIERRE & MIQUELON Per Ounce	.08
BRITISH CAMEROONS	.25	JAPAN	.25	ST. VINCENT (WINDWARD)	.10
BRITISH GUIANA	.10	KENYA AND UGANDA	.25	SALVADOR (EL)	.10
BRITISH HONDURAS	.10	KOREA	.25	SAMOA (WESTERN BR.)	.25
BRITISH SOMALILAND	.25	LABUAN	.25	SAN MARINO	.00
BRITISH VIRGIN ISLANDS	.10	LATVIA	.15	SARAWAK	.25
BRUNEI	.25	LEBANON (REPUBLIC OF)	.25	SAUDI ARABIA	.25
BULGARIA, SOFIA	.15	LIBERIA	.25	SCOTLAND	.15
BURMA	.25	LIBYA	.15	SENEGAL, DAKAR	.25
CANADA	.06*	LIECHENSTEIN	.15	SIAM	.25
CANAL ZONE, BALBOA	.06*	LITHUANIA	.15	SIERRA LEONE	.25
CANARY ISLAND	.25	LUXEMBURG	.15	SOLOMON ISLANDS	.25
CANTON ISLAND	.06*	MACAO	.25	SOMALIA	.25
CAPE VERDE ISLAND	.25	MADAGASCAR	.25	SOUTHERN RHODESIA	.25
CEYLON	.25	MADEIRA ISLANDS	.15	SOUTHWEST AFRICA	.25
CHILE, ANTOFAGASTA	.10	MALAY STATES	.25	SPAIN, MADRID	.15
CHINA, SHANGHAI	.25	MALTA	.15	SPANISH GUINEA	.25
COLOMBIA	.10	MANCHURIA	.25	STRAITS SETTLEMENTS	.25
COOK ISLAND	.25	MARTINIQUE	.10	SURINAM, PARAMARIBO	.10
CORSICA	.15	MAURITANIA	.25	SWEDEN, STOCKHOLM	.15
COSTA RICA, SAN JOSE	.10	MAURITIUS	.25	SWITZERLAND, GENEVA	.15
CUBA, HABANA	.08	MEXICO	.06*	SYRIA, DAMASCUS	.25
CURACAO	.10	MIDWAY ISLAND	.06*	TAIWAN (FORMOSA)	.25
CYPRUS	.25	MONACO	.15	TANGANYIKA	.25
CYRENAICA	.25	MONTSERRAT	.10	TIBET	.25
CZECHOSLOVAKIA, PRAGUE	.15	MOROCCO (BR. FR. SP.)	.15	TONGA (FRIENDLY) ISLANDS	.25
DAHOMY	.25	MOZAMBIQUE (P.E.A.)	.25	TRANS-JORDAN	.25
DENMARK, COPENHAGEN	.15	NAURU ISLAND	.25	TRIESTE, FREE TERRITORY OF	.15
DODECANESE ISLANDS	.15	NETHERLANDS	.15	TRINIDAD	.10
DOMINICA	.10	NETHERLANDS INDIES	.25	TRIPOLITANIA	.25
DOMINICAN REPUBLIC	.10	NEVIS	.10	TRISTAN DA CUNHA	.25
ECUADOR	.10	NEW CALEDONIA	.25	TUNISIA, TUNIS	.15
EGYPT, CAIRO	.15	NEWFOUNDLAND	.10	TURKEY	.15
EIRE (IRELAND)	.15	INCLUDING LABRADOR	.10	TURKS ISLAND	.10
ENGLAND, LONDON	.15	NEW GUINEA	.25	UGANDA	.25
ERITREA	.25	NEW HEBRIDES	.25	UNION OF SOUTH AFRICA	.25
ESTONIA	.15	NEW ZEALAND	.25	URUGUAY, MONTEVIDEO	.10
ETHIOPIA	.25	NICARAGUA	.10	U. S. S. R.	.15
FALKLAND ISLAND	.10	NIGER	.25	U. S. VIRGIN ISLDS.	.06*
FAROE ISLAND	.15	NIGERIA	.25	VATICAN CITY STATE	.15
FIJI ISLAND	.25	NORTH BORNEO	.25	VENEZUELA	.10
FINLAND	.15	NORTHERN IRELAND	.15	WAKE ISLAND	.06*
FRANCE, PARIS	.15	NORTHERN RHODESIA	.25	YEMEN	.25
FRENCH CAMEROONS	.25	NORWAY, OSLO	.15	YUGOSLAVIA	.15
FRENCH EQUATORIAL AFRICA	.25	NYASALAND	.25	ZANZIBAR AND PEMBA	.25
FRENCH GUIANA, CAYENNE	.10	OKINAWA	.25		
FRENCH GUIANA	.25				
FRENCH INDO-CHINA	.25				

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Hams

THE WORLD OVER

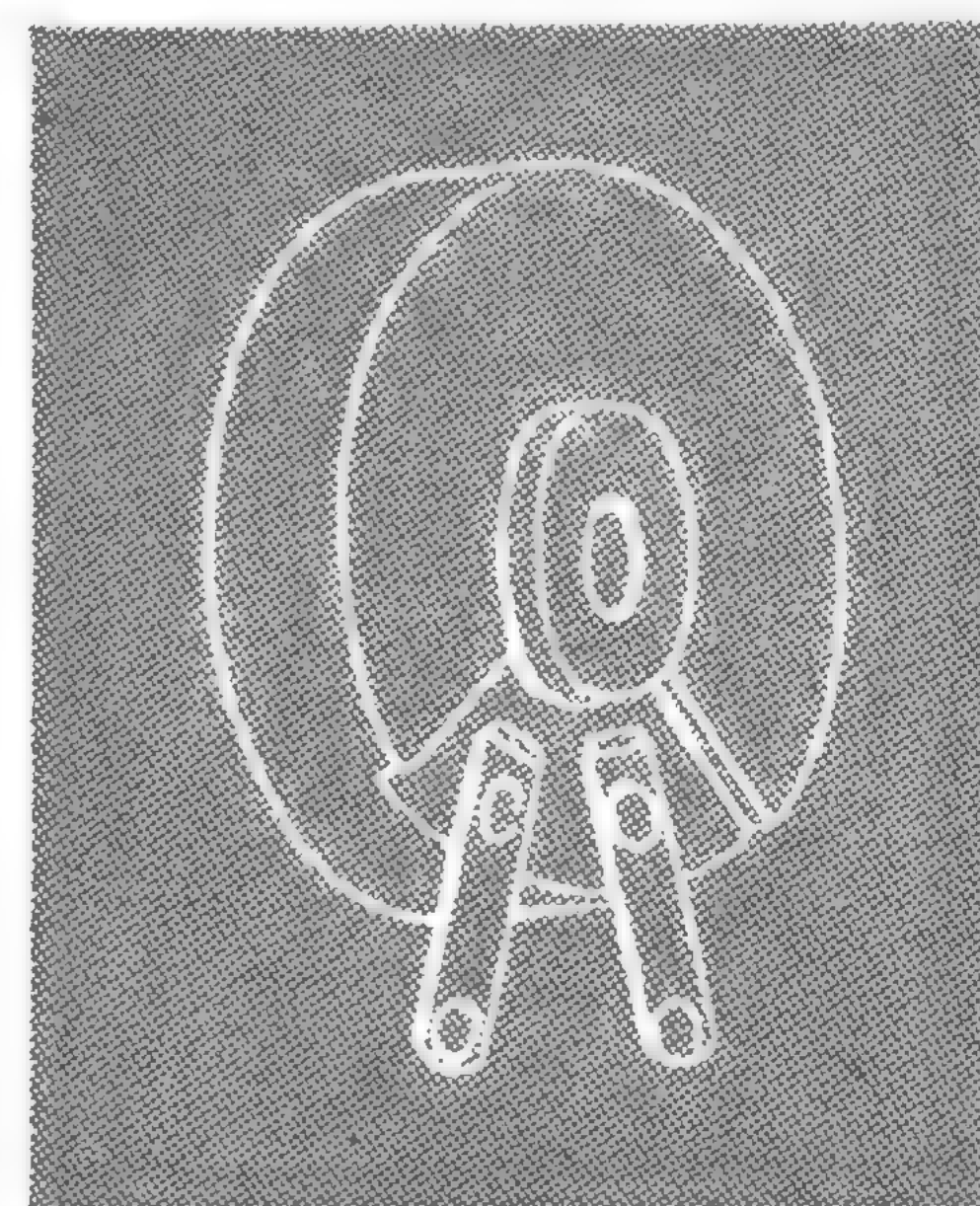
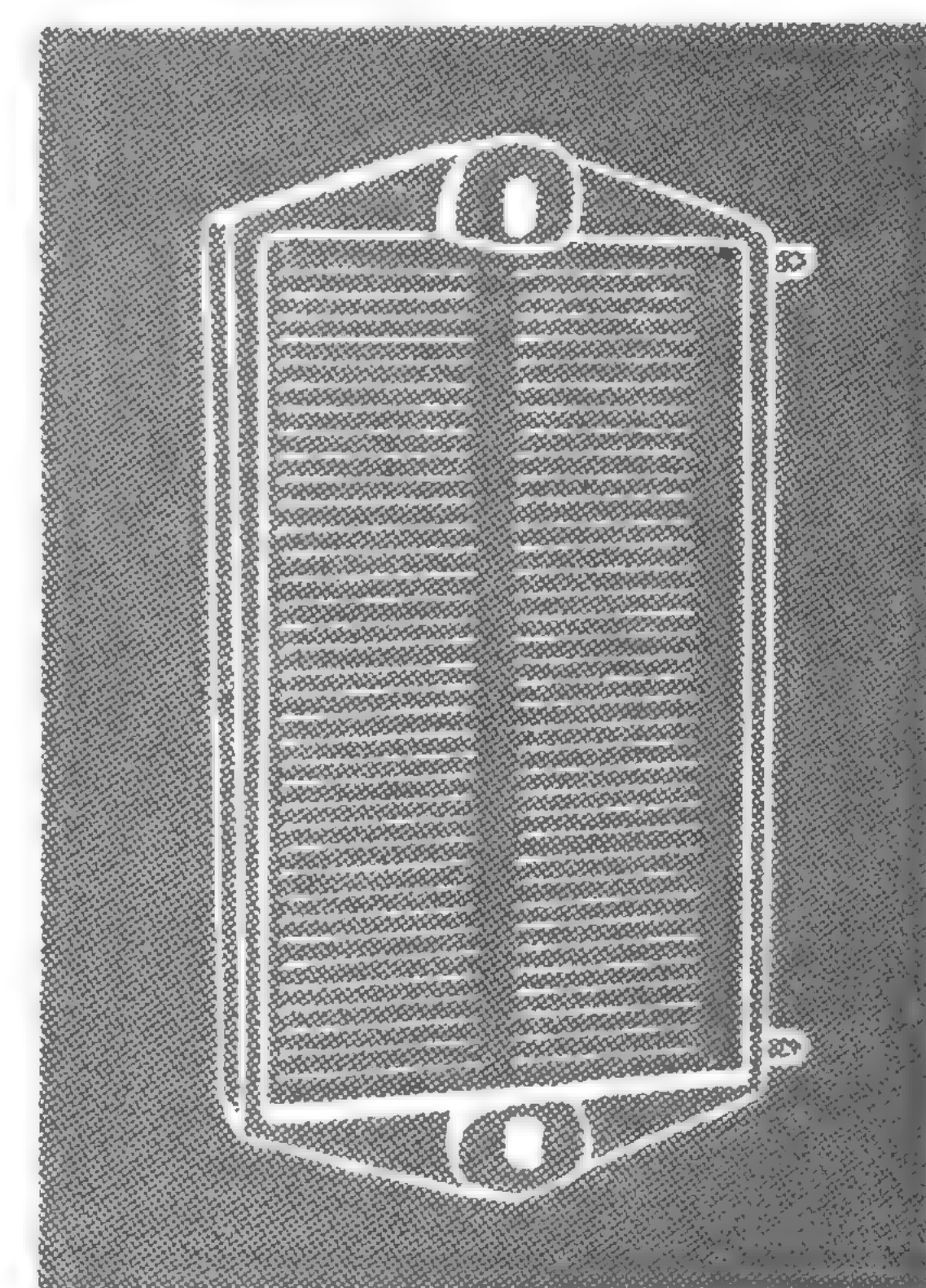
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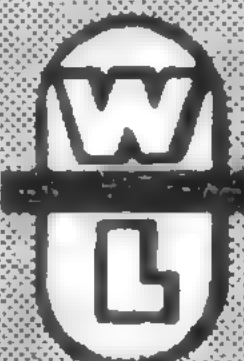


Basic 3R's in Current Control

WARD LEONARD

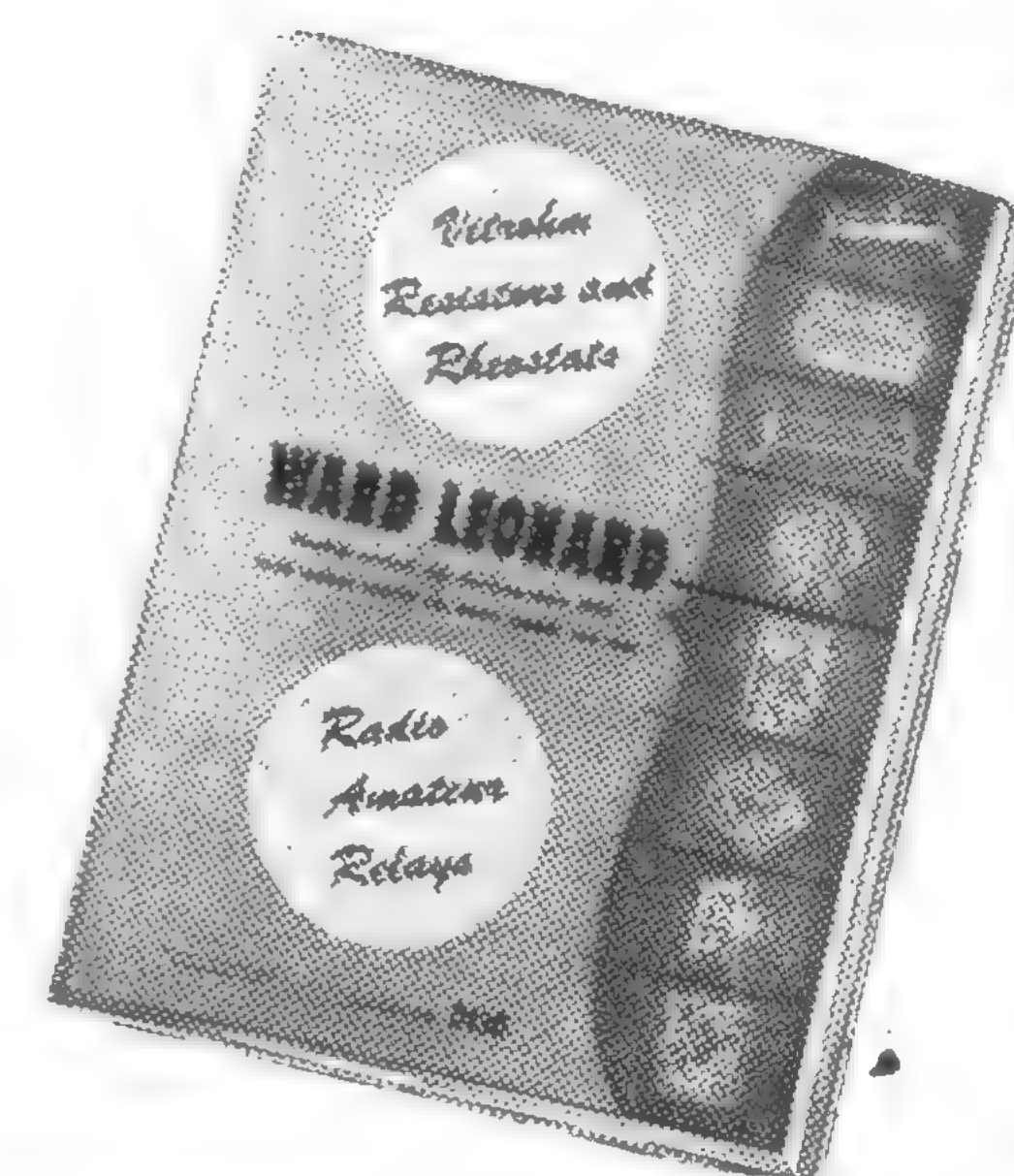
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RESULT-ENGINEERED



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SEND FOR CATALOG D-130
 Gives helpful information
 and data on relays, resistors
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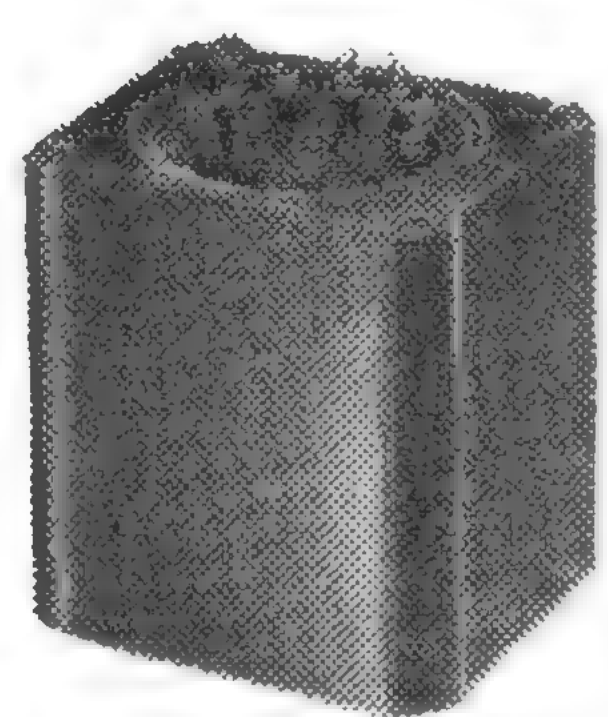
WORLD TIME CONVERSION CHART IN HOURS

Greenwich Meridian Time, London, Eng- land.	Central Europe, Ber- lin, Geneva, Stock- holm, Vienna.	Eastern Europe, Ath- ens, Cape Town, Cairo, Moscow.	Arabia, Armenia, Ethiopia, Madagas- car.	Reunion Island.	Central Russia, Bom- bay, India.	Calcutta, Novosi- birsk, Russia, Tibet.	French Indo China, Siam, Sumatra.	Philippine Islands, Perth, Australia.	Central Australia, Tokyo, Japan.	Eastern Australia, Melbourne, Sydney.	New Caledonia, New Zealand.	International Date Line.	Fiji Islands.	Nome, Alaska, Samoa Islands.	Hawaiian Islands.	Eastern Alaska, Dawson, Juneau.	Pacific Standard Time, Los Angeles, Seattle.	Mountain Standard Time, Calgary, Denver, Phoenix.	Central Standard Time, Chicago, Costa Rica.	Eastern Standard Time, Montreal, New York, Peru.	Atlantic Standard Time, Argentina, Nova Scotia.	Greenland, Rio de Janeiro, Brazil.	Azores.	Iceland, Canary Islands.
0000	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM
0100	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	Noon	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night
0200	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM
0300	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM
0400	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM
0500	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM
0600	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM
0700	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM
0800	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM
0900	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM
1000	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM
1100	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM
1200	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon
1300	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM
1400	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM
1500	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM
1600	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM
1700	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM
1800	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM
1900	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM
2000	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM
2100	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM
2200	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM
2300	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM

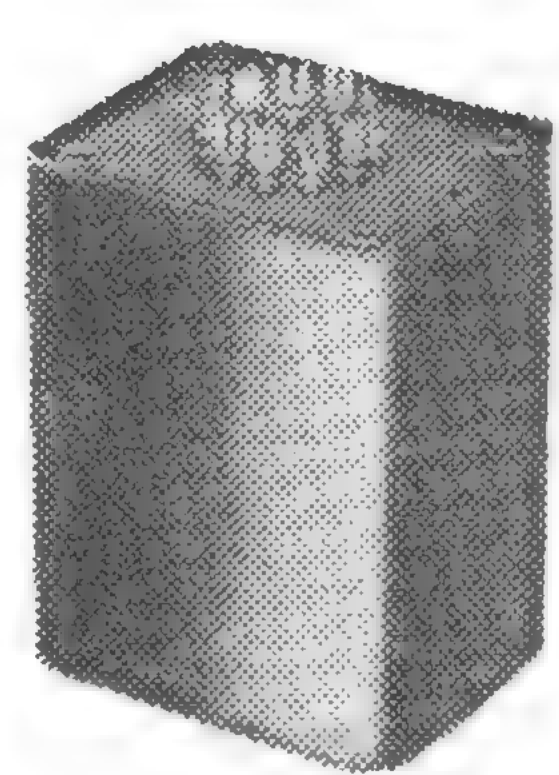
With this chart you can convert standard time in any time zone to GMT or tell what time it is in other parts of the world. To correctly use this chart visualize each horizontal line as a complete circle. From your time zone tracing horizontally to the right (Counter Clockwise) it will be tomorrow when you pass midnight and yesterday when you pass the international date line. To the left (Clockwise) it will be yesterday when you pass midnight and tomorrow when you pass the international date line. There is no change in date when you pass both midnight and the international date line going in one direction. For instance at 8 PM in New York Eastern Standard Time it is 2 AM tomorrow in Berlin, Germany and 11 AM tomorrow in Sydney, Australia. Always trace in the shortest direction from your time zone to find what time it is in any other zone. Copyright 1938 Radio Amateur Call Book, Inc., Chicago, USA.



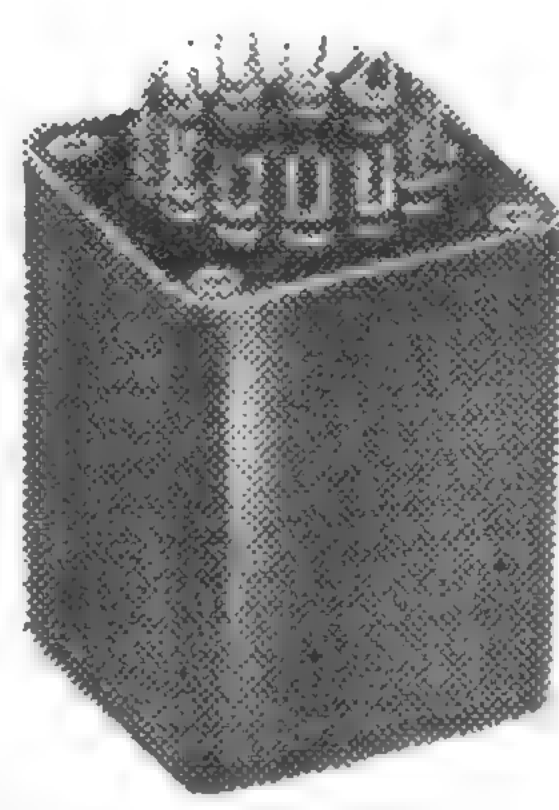
COMPONENTS FOR EVERY APPLICATION



LINEAR STANDARD
High Fidelity Ideal



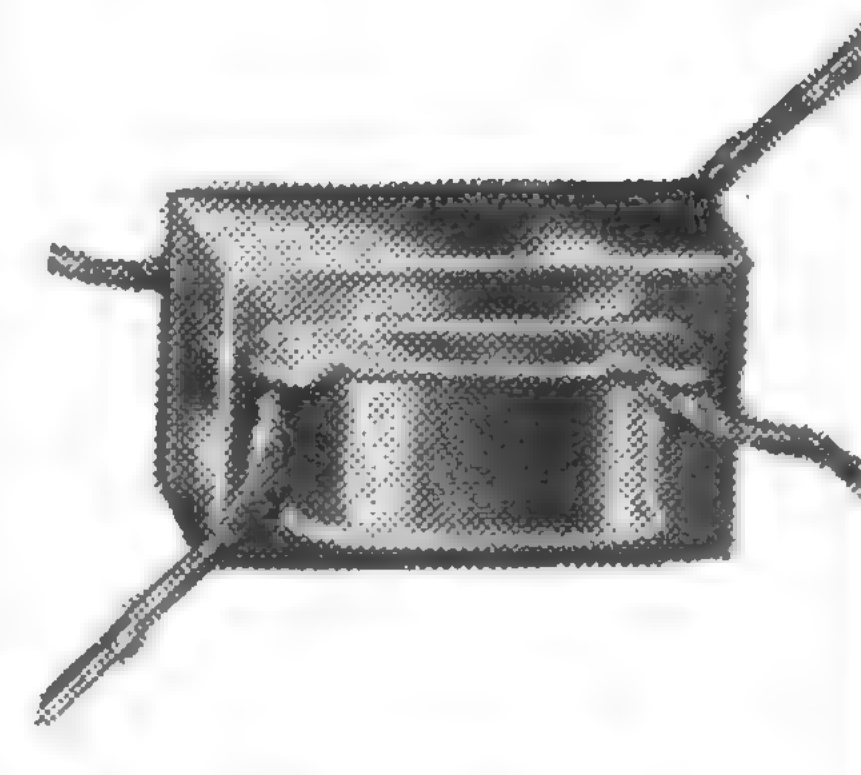
HIPERM ALLOY
High Fidelity . . . Compact



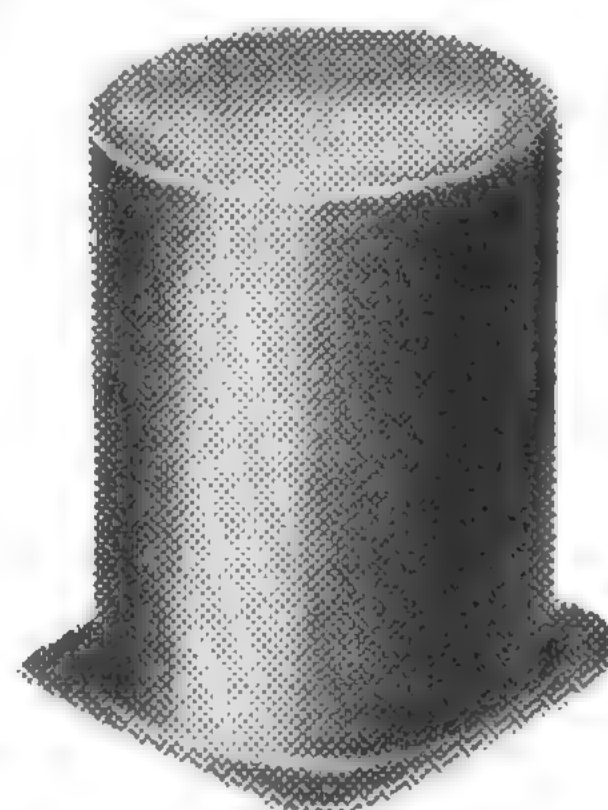
ULTRA COMPACT
Portable . . . High Fidelity



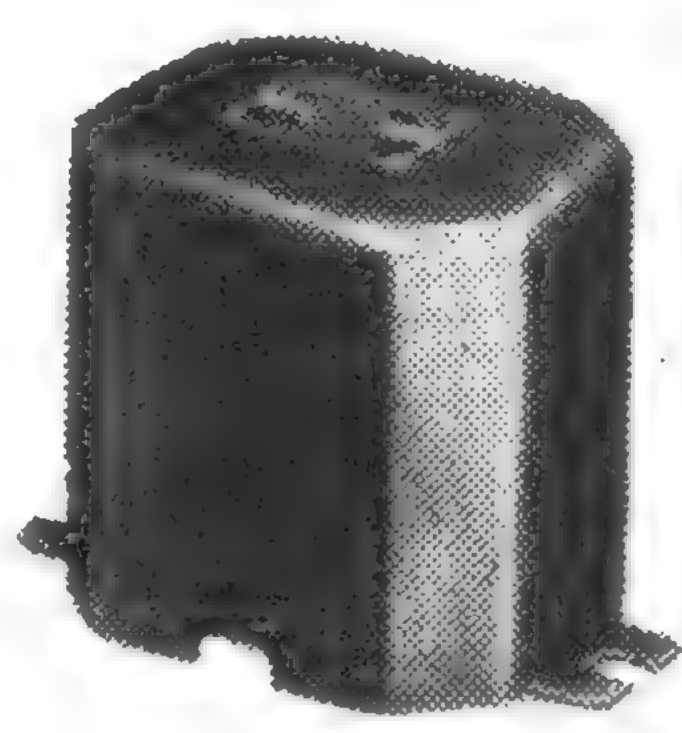
OUNCER
Wide Range . . . 1 ounce



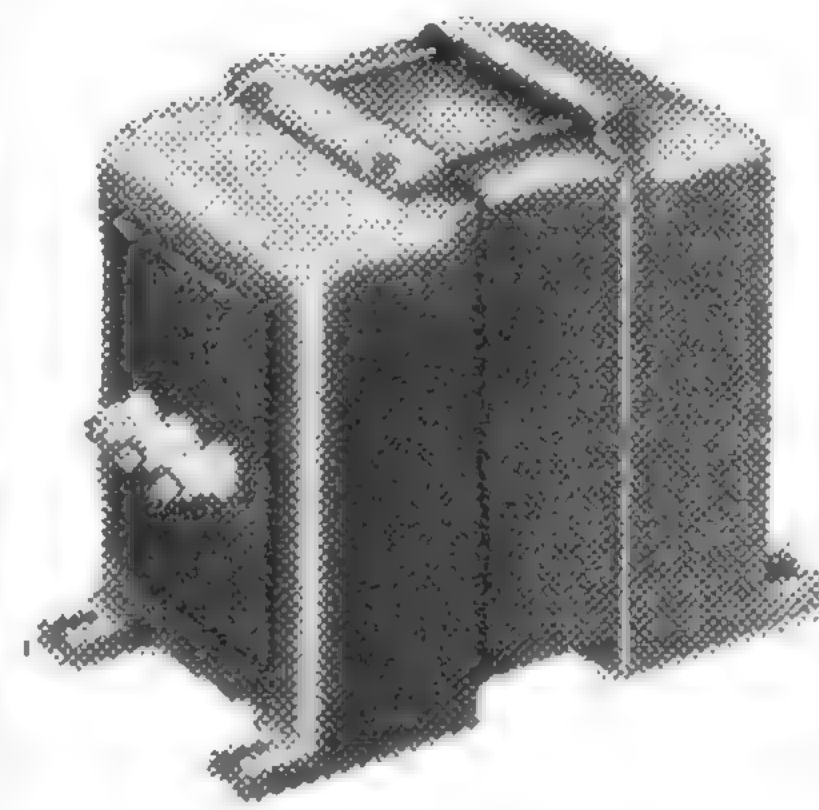
SUB OUNCER
Weight 1/3 ounce



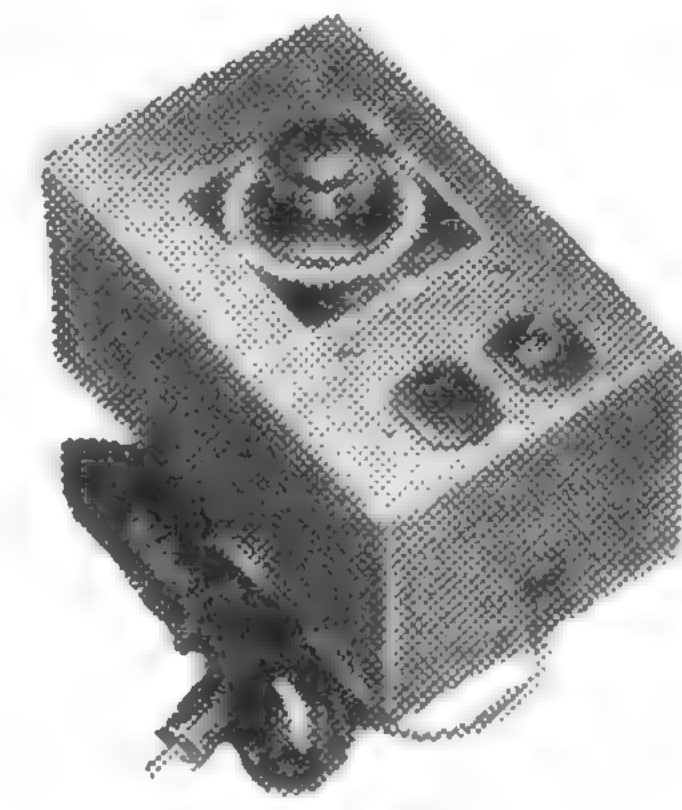
COMMERCIAL GRADE
Industrial Dependability



SPECIAL SERIES
Quality for the "Ham"



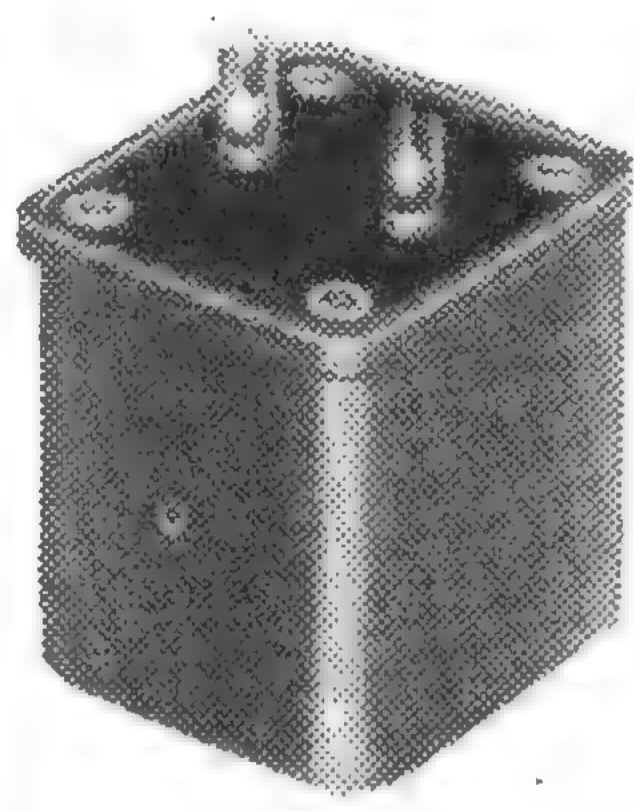
POWER COMPONENTS
Rugged . . . Dependable



VARITRAN
Voltage Adjustors



MODULATION UNITS
One watt to 100KW



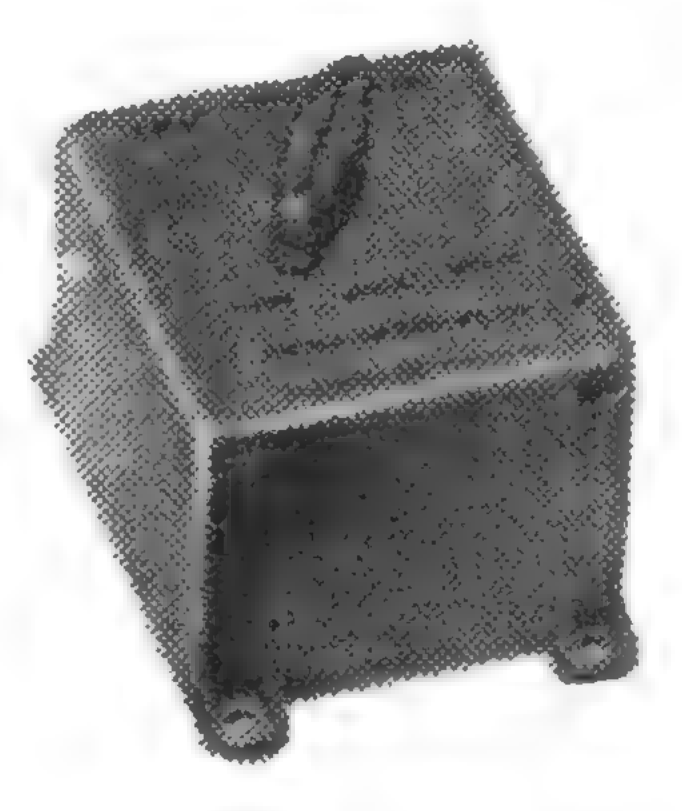
VARIABLE INDUCTOR
Adjust like a Trimmer



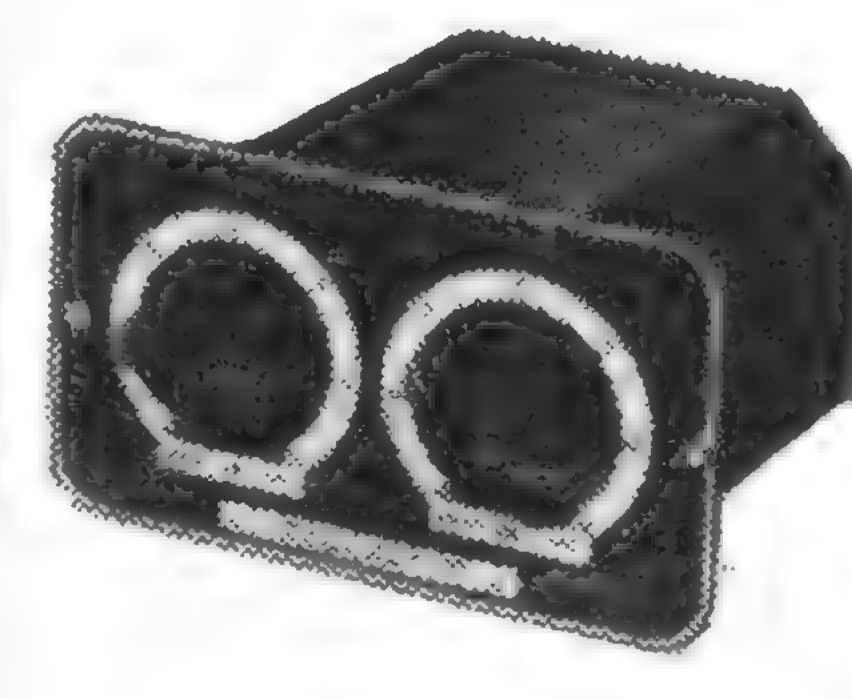
TOROID HIGH Q COILS
Accuracy . . . Stability



TOROID FILTERS
Any type to 300KC



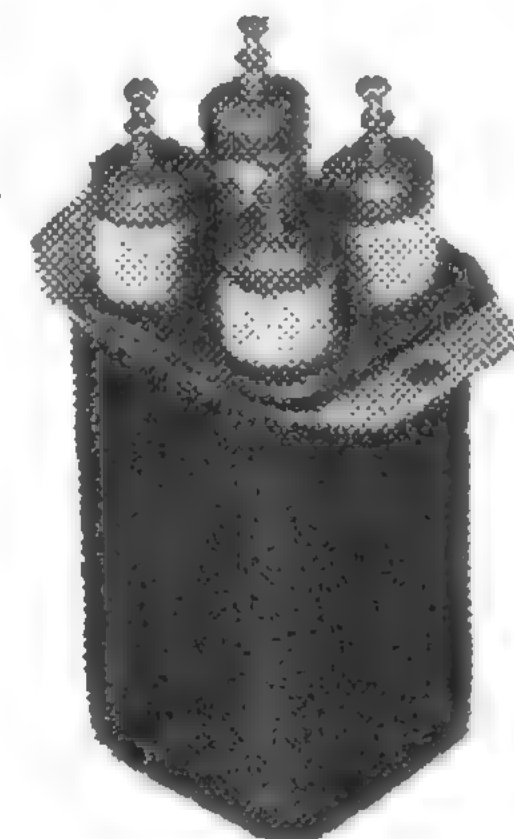
MU-CORE FILTERS
Any type 1/2 - 10,000 cyc.



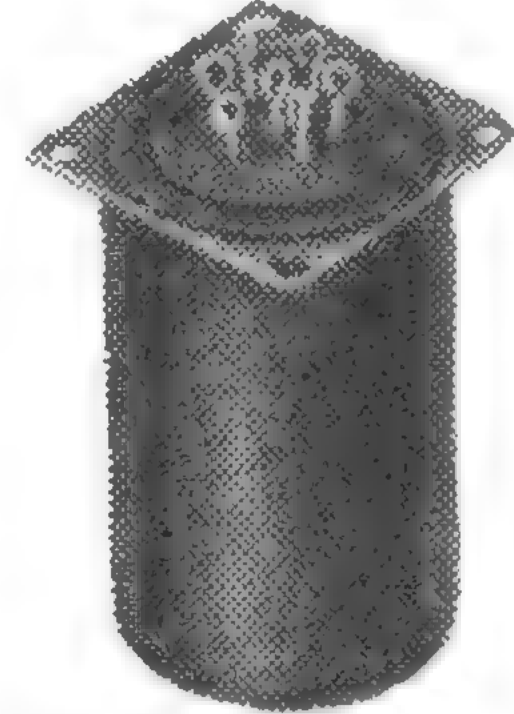
EQUALIZERS
Broadcast & Sound



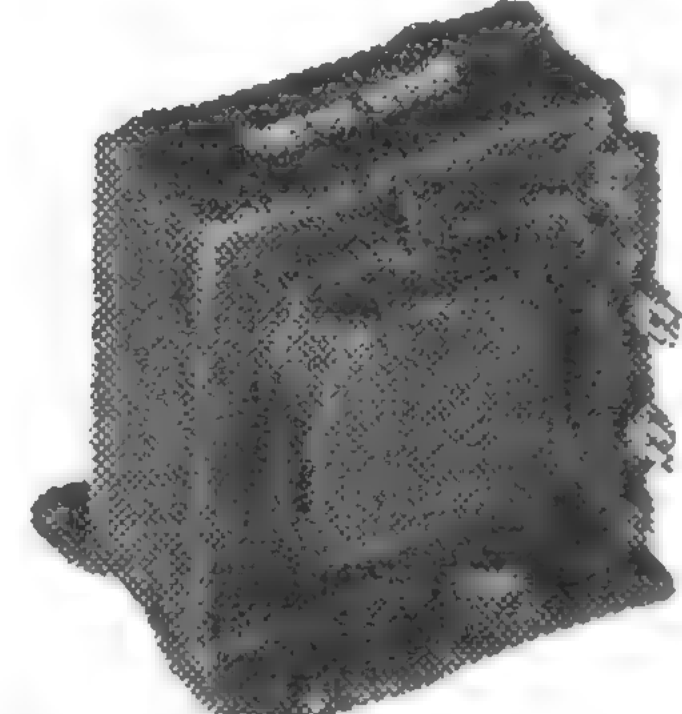
PULSE TRANSFORMERS
For all Services



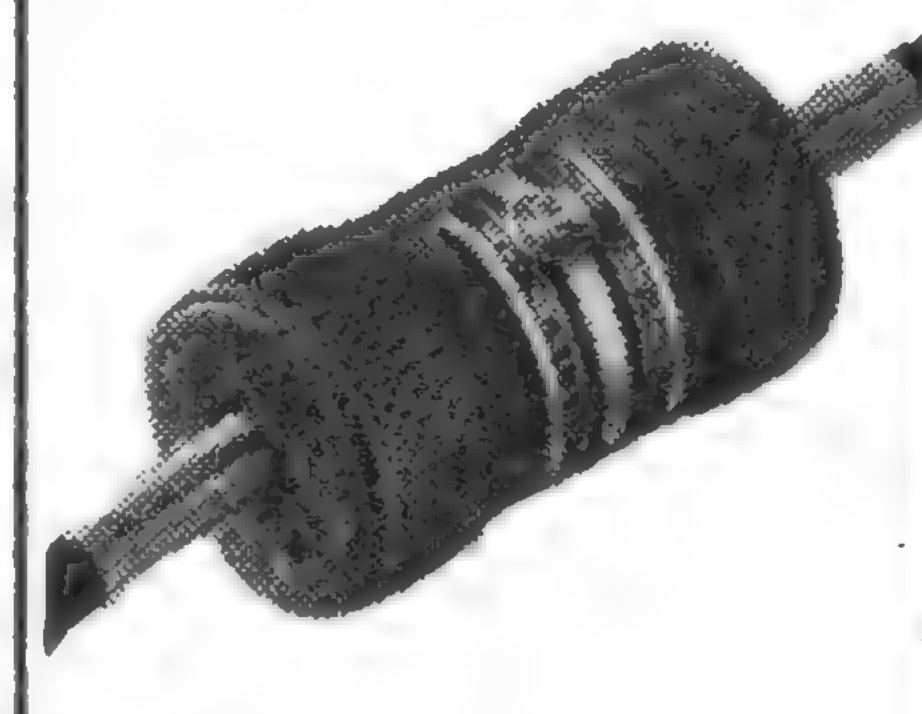
HERMETIC COMPONENTS
Ceramic Terminals



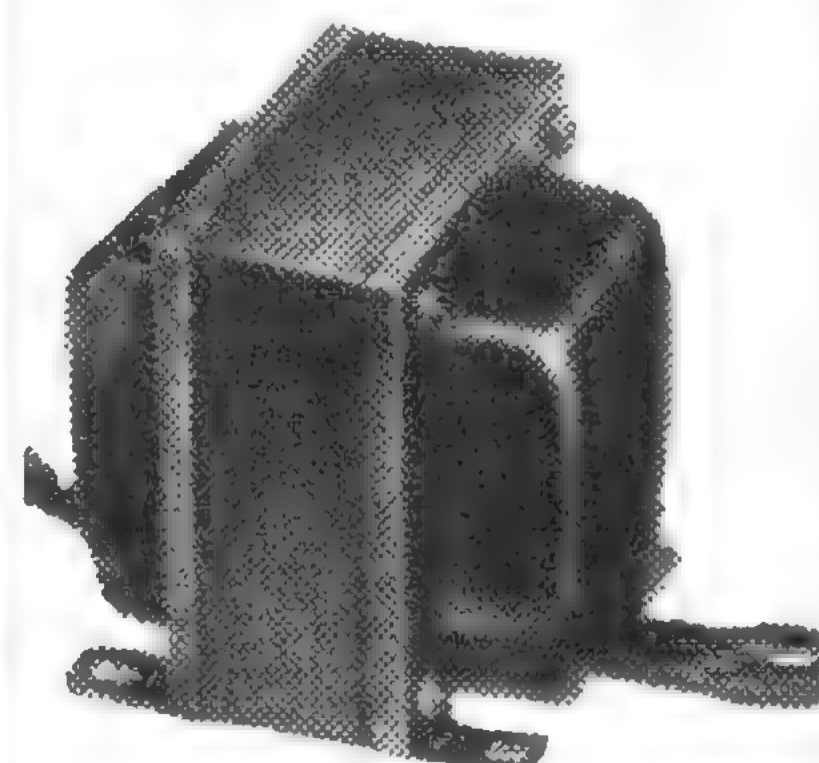
HERMETIC COMPONENTS
Glass Terminals



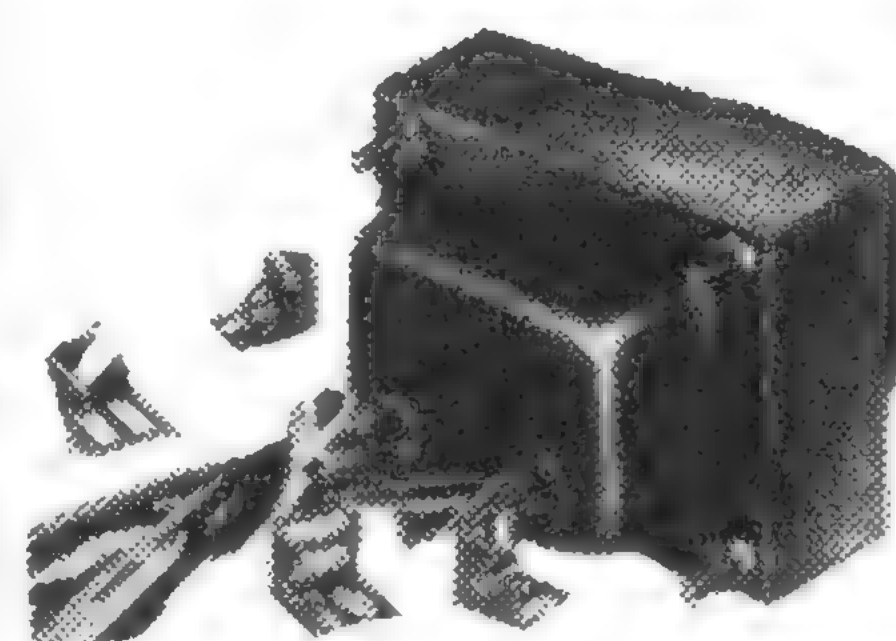
GRADE 3 JAN
Components



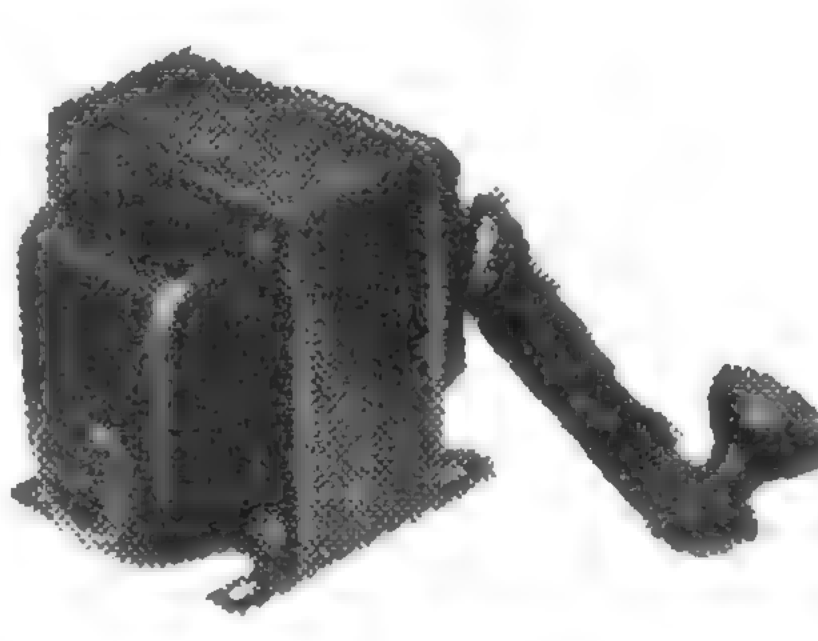
CABLE TYPE
For mike cable line



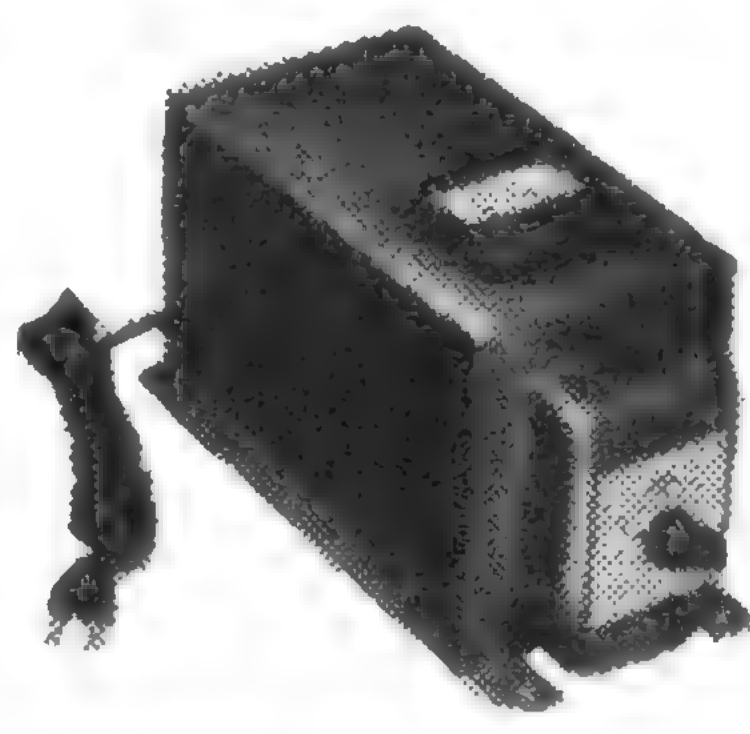
VERTICAL SHELLS
Husky . . . Dependable



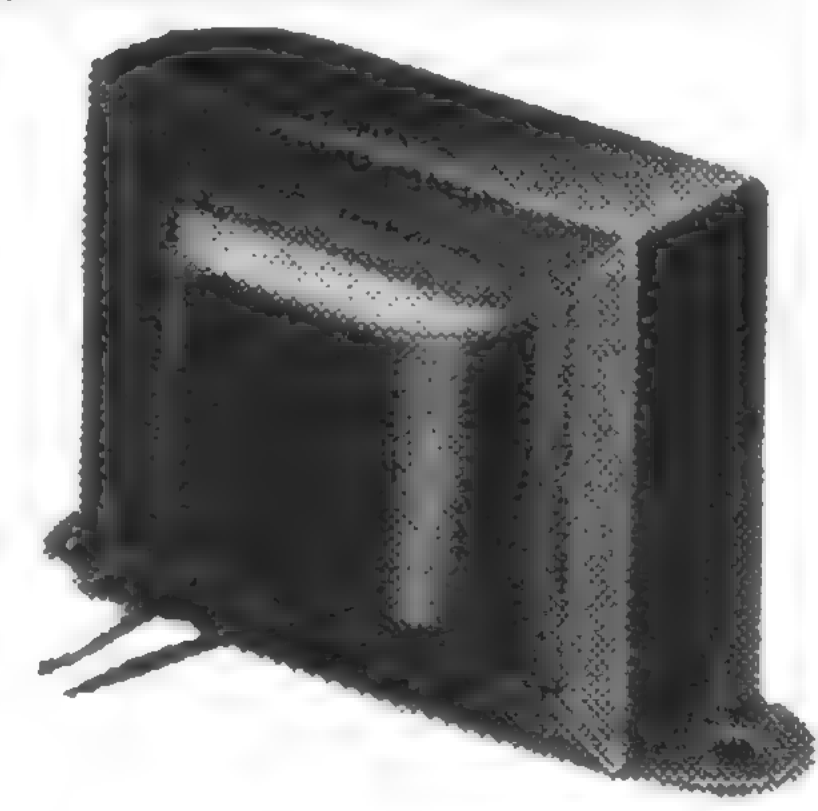
REPLACEMENT
Universal Mounting



STEP-DOWN
Up to 2500W . . . Stock



LINE ADJUSTORS
Match any line voltage



CHANNEL FRAME
Simple . . . Low cost

United Transformer Co.

150 VARICK STREET

NEW YORK 13, N. Y.

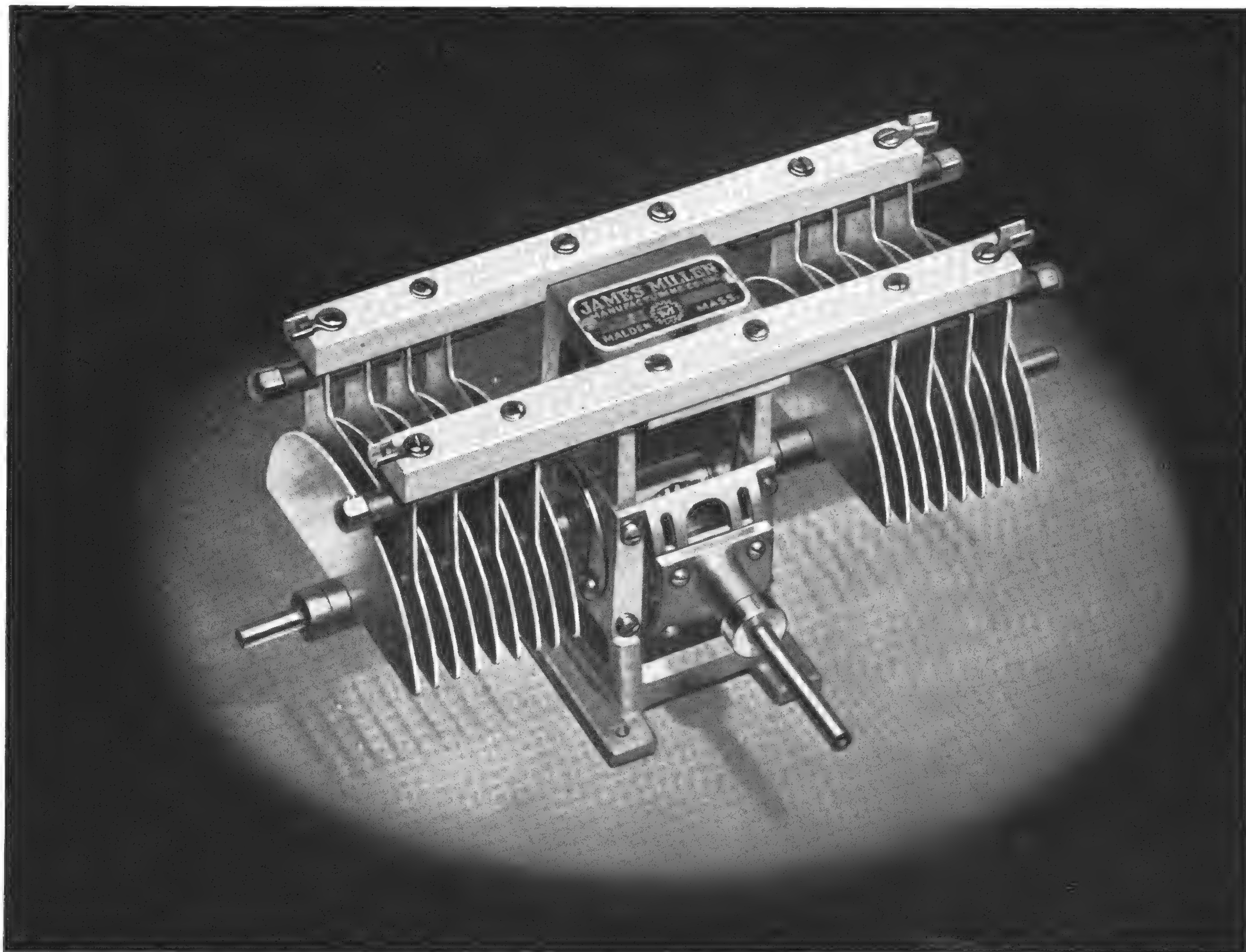
EXPORT DIVISION: 13 EAST 40th STREET, NEW YORK 16, N. Y., CABLES: "ARLAB"

GREAT CIRCLE BEARINGS IN THE UNITED STATES

ATLANTA, GA.	BIRMINGHAM, ALA.	BISMARCK, N. D.	BOSTON, MASS.	BUFFALO, N. Y.	CHARLESTON, W. VA.	CHEYENNE, WYO.	CHICAGO, ILL.	CLEVELAND, OHIO	COLUMBIA, S. C.	DALLAS, TEXAS	DENVER, COLORADO	DES MOINES, IOWA	DETROIT, MICH.	EL PASO, TEXAS	HELENA, MONTANA	HOUSTON, TEXAS	INDIANAPOLIS, IND.	JACKSONVILLE, FLA.	KANSAS CITY, MO.	LITTLE ROCK, ARK.	LOS ANGELES, CALIF.	LOUISVILLE, KY.	MIAMI, FLORIDA	MILWAUKEE, WIS.	MINNEAPOLIS, MINN.	NASHVILLE, TENN.	NEW ORLEANS, LA.	NEW YORK, N. Y.	NORFOLK, VA.	PHILADELPHIA, PA.	PHOENIX, ARIZONA	PITTSBURGH, PA.	ST. LOUIS, MO.	SALT LAKE CITY, UTAH	SAN FRANCISCO, CALIF.	SEATTLE, WASHINGTON	WASHINGTON, D. C.	WILMINGTON, N. C.
264	322	47	24	25	301	343	15	86	269	297	320	7	271	310	251	347	145	306	281	281	347	154	345	331	321	234	48	64	48	278	27	318	296	289	308	48	84	
82	326	50	31	40	304	356	26	84	268	299	328	17	270	312	246	5	125	314	287	281	10	142	355	338	0	219	52	67	53	278	37	333	298	290	309	53	83	
132	137	92	97	115	209	114	105	124	167	205	133	104	198	273	165	119	132	148	150	233	123	135	109	108	131	151	99	111	102	217	106	134	237	249	282	107	119	
236	241	291	277	247	278	273	267	226	254	275	275	274	262	293	246	263	220	268	253	273	256	207	278	286	249	237	235	219	233	268	258	262	280	280	295	236	217	
208	217	291	92	206	273	264	237	192	241	269	268	261	252	290	231	243	191	258	237	267	231	184	274	286	225	219	118	160	134	261	199	248	276	276	293	159	174	
208	223	307	61	24	287	309	359	174	251	282	293	345	260	300	238	293	180	279	251	274	270	174	316	311	245	223	66	108	71	269	31	275	286	282	301	80	143	
108	112	26	76	76	91	81	81	103	140	187	83	79	189	319	143	90	113	101	119	241	95	119	76	62	104	128	81	92	83	219	84	98	268	262	303	87	100	
161	175	302	82	78	125	272	93	144	221	266	268	80	242	293	210	151	155	245	208	262	157	156	350	308	173	190	91	116	97	254	101	212	274	272	295	106	131	
197	209	297	80	55	179	277	176	240	272	275	310	252	293	228	245	180	261	235	268	226	175	290	296	219	214	95	136	105	262	127	250	278	277	296	124	156		
268	267	317	41	10	354	299	329	356	270	295	311	350	271	308	256	326	189	300	279	282	320	174	331	323	297	246	39	53	37	279	7	305	295	296	307	33	85	
81	82	349	57	49	61	325	36	50	80	319	15	45	266	325	157	47	97	15	61	280	55	112	32	11	65	115	60	71	61	277	55	40	308	291	315	63	80	
103	107	22	73	72	87	6	75	77	99	134	74	74	189	325	138	84	109	91	112	246	90	116	70	55	98	124	78	88	80	224	80	91	283	267	308	83	96	
134	144	318	80	78	105	271	84	87	123	197	262	81	231	297	187	105	135	197	171	257	116	141	69	5	133	165	87	104	91	247	92	137	273	270	296	97	115	
188	200	295	86	79	164	273	263	129	168	233	268	268	248	291	222	174	254	227	265	208	171	282	292	206	207	100	133	109	258	128	238	275	274	294	124	151		
77	78	14	58	54	64	8	50	56	76	79	8	42	53	345	98	57	86	48	71	285	62	97	46	33	68	92	61	-69	62	290	59	57	335	298	327	64	75	
112	116	85	84	88	100	133	97	93	108	134	141	105	92	162	136	101	115	115	122	203	105	119	94	91	111	127	89	98	92	180	94	109	179	224	283	95	104	
64	60	348	50	40	49	329	25	39	67	338	325	6	34	285	327	34	84	3	26	288	40	103	22	5	46	86	52	60	53	289	45	24	314	297	319	5	68	
166	185	308	72	58	110	281	332	62	143	234	276	290	41	250	298	220	157	267	226	267	168	158	338	316	188	199	80	107	85	261	80	251	281	277	298	94	127	
327	309	324	33	9	1	308	339	0	8	286	304	323	355	282	314	273	340	314	300	288	338	163	341	332	326	271	29	34	28	287	8	323	303	295	312	23	39	
120	129	332	72	67	90	288	60	73	111	196	278	15	66	236	306	184	82	126	157	262	95	134	50	9	113	157	78	93	81	253	79	97	282	275	302	85	105	
97	104	335	59	48	65	307	26	48	92	243	300	352	41	260	315	208	43	114	338	276	55	128	21	356	71	158	62	76	64	271	56	22	297	286	309	67	89	
81	82	41	62	61	70	52	62	65	79	88	57	60	62	100	19	96	67	87	81	70	94	59	52	76	92	65	71	66	95	67	69	35	319	348	68	78		
166	190	313	66	47	87	287	339	43	137	242	282	301	26	256	302	227	348	156	280	239	271	158	342	322	202	205	71	98	75	266	63	278	285	281	301	82	120	
337	326	329	22	3	355	313	342	356	355	302	310	329	353	291	318	290	342	345	321	315	293	341	342	335	334	298	18	16	15	293	1	330	308	299	315	11	13	
162	175	297	87	88	132	267	170	107	147	218	261	253	99	239	290	207	157	156	235	204	259	160	157	298	172	188	98	121	103	251	111	203	271	270	293	113	135	
145	154	291	91	96	123	248	125	108	135	193	242	184	105	227	283	186	132	144	189	175	248	137	146	114	148	169	99	116	104	237	110	159	259	261	287	111	127	
140	180	320	59	40	61	295	354	36	114	251	290	318	24	261	307	231	8	142	298	254	275	22	150	353	333	205	63	83	65	271	50	313	291	285	305	68	10	

The above table shows the great circle bearing in degrees, of various metropolitan areas in the United States in relationship to each other. This table should be used from left to right only. To find the great circle bearing between any two of the cities shown, start at the left and follow the horizontal line to the right until you come to the column directly under the name of the city that you desire to beam a radio

signal to. For all practical purposes in the United States, Polaris (the North Star), is due north. To find this star, to calibrate a directional radio beam, look for the first star on a straight line with the two outer stars on the outside edge of the cup of the big dipper. This table was compiled from information furnished by the U. S. Coast and Geodetic Survey. Copyright 1947, Radio Amateur Call Book, Inc.



“Designed for Application”

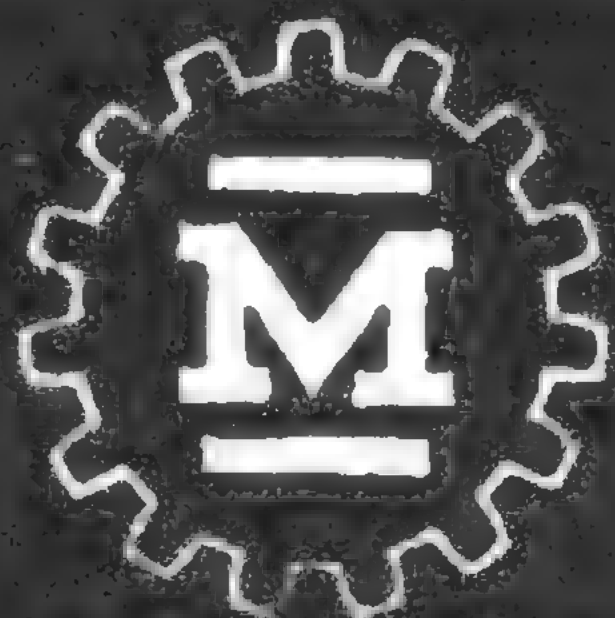
THE 04000 VARIABLE TRANSMITTING CONDENSER

Another Millen exclusive “Designed for Application” product is the No. 04000 series of variable air transmitting capacitors. Permits more efficient use of newer tubes—more compact and symmetrical circuit arrangements and consequent better neutralization. Center fed rotors for better high frequency current distribution. Constant impedance, heavy current, multiple finger rotor contactor of new design.

Extruded steatite insulation. Terminals in convenient places. Sturdy cast aluminum frame with right angle 1/1 drive. Adjustable drive shaft angle for either vertical or sloping panels. Heavy gauge rounded and polished aluminum rotor and stator plates. Rotor plate radius, 1 1/2". Available in peak voltage ratings of 3000, 6000 and 9000. Ideal for heavy duty industrial electronic heating applications.

JAMES MILLEN

MAIN OFFICE



MFG. CO., INC.

AND FACTORY

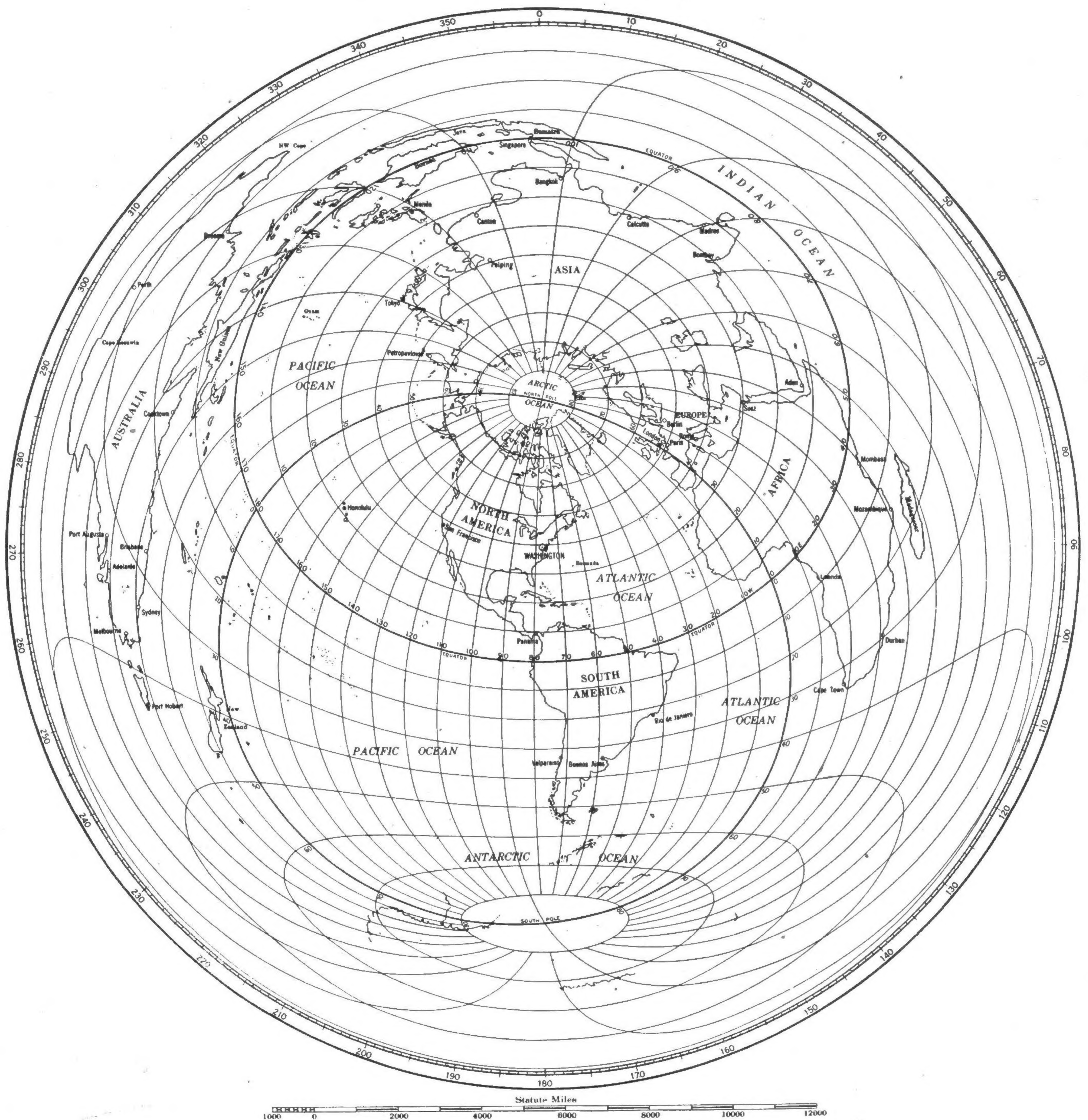
MALDEN, MASSACHUSETTS, U. S. A.

GREAT CIRCLE BEARINGS FROM THE UNITED STATES TO VARIOUS WORLD WIDE METROPOLITAN AREAS

ATLANTA, GA.	43	325	153	242	160	26	48	45	158	51	114	141	38	198	170	30	280	102	160	170	45	58	329	227	156	32	34	47	42	170	139	51	179	168	336	346	33	254	324	TOKYO, JAPAN
BIRMINGHAM, ALA.	42	325	151	241	155	23	47	44	156	50	113	137	37	191	158	29	279	101	157	167	44	57	327	221	154	36	33	47	42	165	137	50	173	166	334	342	32	253	323	SYDNEY, AUSTRALIA
BISMARCK, N. D.	42	315	141	240	143	7	45	43	146	40	97	131	35	162	142	27	261	81	146	154	45	56	317	177	145	84	33	46	39	151	129	46	153	155	325	328	30	256	314	STOCKHOLM, SWEDEN
BOSTON, MASS.	51	321	167	253	186	36	56	53	169	60	117	172	45	217	210	36	284	105	177	187	53	68	346	235	168	331	40	56	50	191	153	59	205	181	349	7	39	270	335	
BUFFALO, N. Y.	49	320	160	250	172	29	53	51	163	55	112	159	42	203	189	34	279	99	168	178	51	65	338	222	161	54	38	53	47	179	146	56	189	173	342	356	37	266	329	
CHARLESTON, W. VA.	46	322	156	246	167	28	50	47	160	53	113	151	40	201	183	32	279	101	164	174	48	61	334	224	159	37	36	50	45	175	143	53	185	170	339	351	35	259	327	
CHEYENNE, WYO.	38	322	138	236	135	3	41	40	143	37	100	122	32	151	127	24	263	84	141	148	41	52	312	166	142	69	30	42	36	143	126	42	144	152	322	321	27	250	312	
CHICAGO, ILL.	45	320	152	245	158	21	49	47	156	49	108	144	39	186	165	31	274	95	158	167	48	60	328	207	154	66	36	50	44	167	138	51	173	166	335	343	34	260	323	
CLEVELAND, OHIO	47	320	157	247	167	27	52	49	161	53	111	153	41	198	182	33	278	99	165	174	50	63	334	219	159	53	37	52	46	175	143	54	184	171	340	352	36	263	327	
COLUMBIA, S. C.	44	324	156	243	166	29	49	46	161	53	115	148	39	206	186	31	281	103	164	175	46	59	333	232	159	24	35	48	44	175	142	52	187	171	339	352	34	255	327	
DALLAS, TEXAS	39	326	142	237	138	12	43	41	148	44	110	122	34	161	123	26	274	97	146	154	42	53	317	189	147	48	31	43	38	149	130	45	150	157	326	326	29	249	317	
DENVER, COLORADO	38	323	137	235	133	2	41	39	143	37	101	120	32	149	124	24	264	85	141	147	41	52	312	164	142	66	29	42	35	142	125	42	142	152	321	320	27	249	312	
DES MOINES, IOWA	43	320	146	242	149	15	47	44	151	45	105	135	37	173	149	28	270	90	152	160	46	58	323	194	150	68	34	47	41	158	134	48	162	161	330	335	32	256	319	
DETROIT, MICH.	47	320	156	247	166	25	51	49	160	52	110	151	41	195	178	32	277	97	163	173	50	63	333	216	159	62	37	52	46	173	142	54	182	169	339	350	35	263	326	
EL PASO, TEXAS	36	329	135	233	125	1	39	37	142	37	108	111	30	136	106	22	270	94	137	142	38	49	308	150	140	52	27	40	34	135	124	41	131	149	319	313	25	245	312	
HELENA, MONTANA	36	318	133	233	130	355	39	38	138	31	89	119	30	144	124	22	252	71	136	142	39	49	308	154	137	78	28	40	33	138	121	39	138	147	317	316	25	249	307	
HOUSTON, TEXAS	39	328	143	237	137	15	43	41	149	45	113	120	34	162	116	26	277	100	147	154	41	53	317	199	147	41	30	43	38	149	130	46	150	158	327	326	29	247	318	
INDIANAPOLIS, IND.	45	321	153	244	160	23	49	47	157	50	110	144	39	190	168	31	276	97	160	169	47	60	329	212	155	54	35	49	43	168	139	52	176	167	336	345	34	259	324	
JACKSONVILLE, FLA.	42	326	155	242	163	30	48	44	160	53	117	142	37	209	185	30	283	105	163	173	44	57	331	239	158	20	33	47	42	174	141	51	187	170	338	350	33	251	326	
KANSAS CITY, MO.	42	322	145	240	146	14	45	43	151	45	107	132	36	171	143	28	271	93	151	159	44	56	321	193	149	61	33	46	40	156	133	47	159	160	329	333	31	254	319	
LITTLE ROCK, ARK.	41	325	146	240	147	17	45	43	152	47	111	130	36	175	141	28	275	98	152	160	43	56	322	203	150	47	32	45	40	157	134	48	161	161	330	334	31	252	320	
LOS ANGELES, CALIF.	31	333	127	228	116	347	34	33	135	28	102	104	26	121	100	18	260	84	128	132	34	44	300	126	134	58	24	35	28	124	117	34	119	141	312	303	21	241	306	
LOUISVILLE, KY.	44	322	153	244	160	23	49	46	157	50	111	144	39	191	168	30	277	98	160	169	47	60	329	215	156	47	35	49	43	168	139	51	176	167	336	345	33	257	324	
MIAMI, FLORIDA	41	328	155	240	163	33	47	43	160	54	118	138	37	223	217	30	285	108	163	175	43	56	331	254	158	13	33	46	42	176	140	50	194	171	339	351	32	247	327	
MILWAUKEE, WIS.	45	319	152	245	158	20	50	47	156	49	107	145	39	185	165	31	273	94	158	167	48	61	328	205	154	72	36	50	44	166	138	52	173	165	335	343	34	261	323	
MINNEAPOLIS, MINN.	44	317	147	243	152	15	48	46	152	46	103	139	38	175	154	29	270	90	153	161	47	59	324	193	150	81	35	49	42	160	134	49	164	161	331	337	33	259	319	
NASHVILLE, TENN.	43	323	151	242	157	23	48	45	156	50	112	140	38	190	162	30	277	99	158	167	46	58	328	216	155	43	34	48	42	166	138	50	174	166	335	343	33	255	324	
NEW ORLEANS, LA.	40	327	147	239	146	21	45	42	153	48	114	127	35	182	133	28	279	102	152	161	43	55	322	220	151	35	32	45	40	158	135	48	163	162	331	334	30	249	321	
NEW YORK, N. Y.	49	321	164	251	180	34	54	51	167	58	116	166	43	214	204	35	283	104	173	184	51	66	343	233	165	4	39	54	48	187	150	57	199	177	346	3	38	266	333	
NORFOLK, VA.	46	323	161	247	176	33	51	48	165	56	116	160	41	213	203	33	283	104	170	181	48	62	339	235	163	12	36	51	46	184	147	55	197	175	344	0	36	260	331	
PHILADELPHIA, PA.	48	322	163	249	178	33	53	50	166	57	115	164	42	212	202	34	282	103	172	182	50	65	341	232	164	11	38	53	48	185	149	56	197	176	345	2	37	264	332	
PHOENIX, ARIZONA	34	330	131	231	121	354	37	35	138	33	105	108	28	129	104	20	265	89	133	138	36	47	304	137	137	56	26	38	31	130	121	38	126	146	316	308	23	243	309	
PITTSBURGH, PA.	47	321	158	247	170	29	52	49	162	54	113	155	41	203	187	33	279	100	167	176	49	63	336	224	160	41	37	52	46	178	145	55	188	172	341	354	36	262	329	
ST. LOUIS, MO.	43	322	149	242	153	19	47	45	154	48	109	137	37	181	156	29	274	96	155	164	46	58	325	204	152	55	34	47	42	162	136	49	167	163	332	339	32	256	321	
SALT LAKE CITY, UTAH	35	325	132	232	127	355	38	36	139	32	96	114	29	138	116	21	258	79	135	141	38	48	307	149	136	67	27	39	32	135	121	38	134	146	317	313	24	247	308	
SAN FRANCISCO, CALIF.	30	333	125	225	115	343	32	31	132	24	95	104	24	121	101	16	252	74	126	130	33	42	298	126	131	62	22	33	26	123	115	32	119	139	310	301	19	240	303	
SEATTLE, WASHINGTON	31	321	125	227	120	345	33	32	131	23	79	110	25	131	113	17	240	58	128	133	34	43	300	138	130	75	24	35	27	128	113	32	127	139	309	306	20	243	301	
WASHINGTON, D. C.	47	322	161	248	175	32	52	49	164	56	115	160	41	210	198	33	282	103	170	180	49	63	339	231	163	20	37	52	47	182	147	55	194	174	343	359	36	262	331	
WILMINGTON, N. C.	45	324	159	245	172	32	50	47	163	55	116	154	39	213	200	32	283	105	168	179	47	60	337	237	161	15	35	49	45	181	145	53	194	173	342	357	34	256	329	

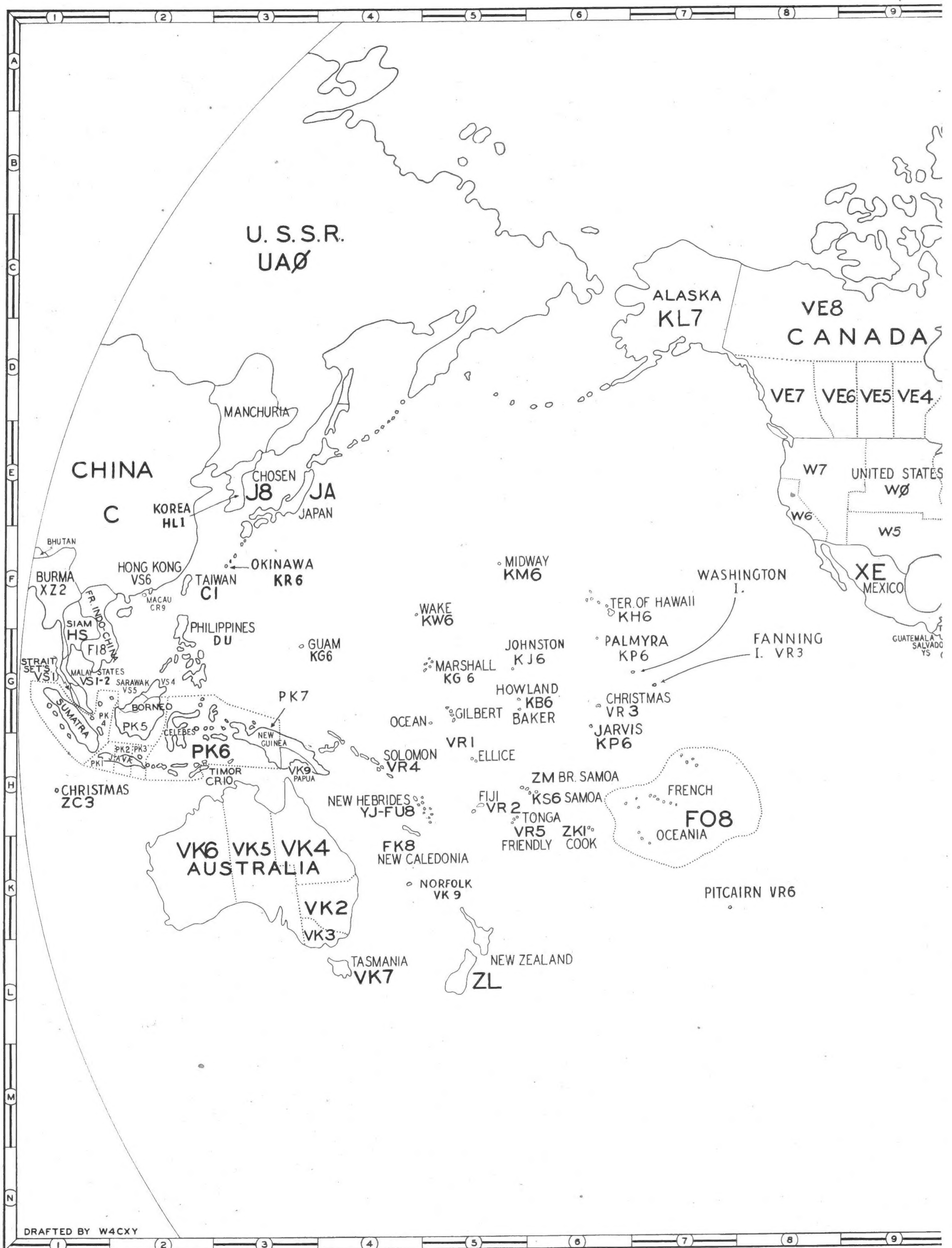
The above table shows the great circle bearing in degrees, of various metropolitan areas in the United States in relationship

Great Circle Chart of the World Centered on WASHINGTON, D. C.



To find the great circle bearing of any point in the world from Washington, D. C., draw a straight line from the center and note the reading in degrees as indicated on the outer scale. The bar scale may be used to determine the approximate distance. This map was prepared by the Hydrographic Office of the U. S. Navy Department.

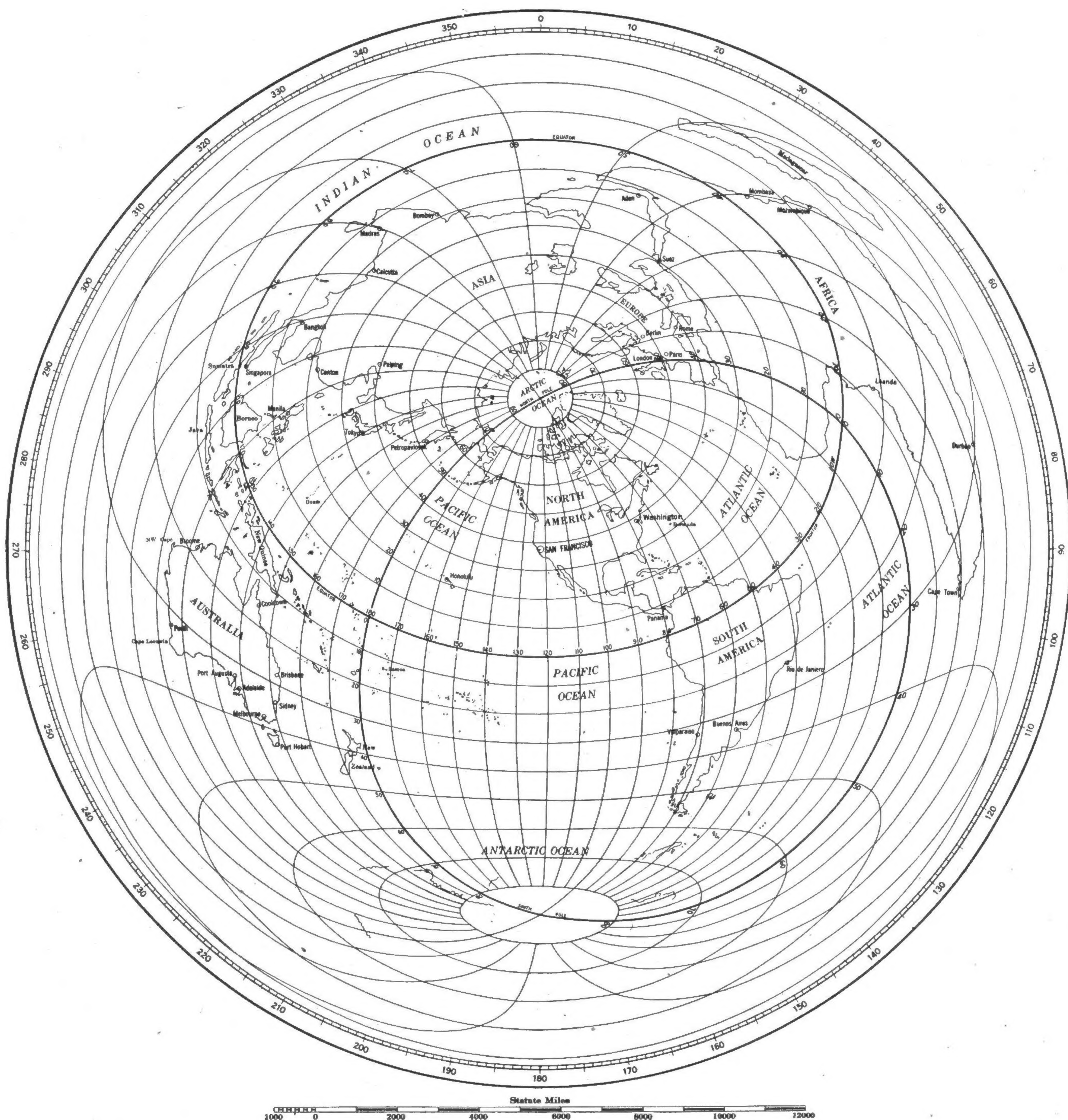
WORLD MAP SHOWING



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MAP OF THE WORLD
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RADIO AMATEUR CALL BOOK, INC.
CHICAGO

Great Circle Chart of the World Centered on SAN FRANCISCO, CALIFORNIA



To find the great circle bearing of any point in the world from San Francisco draw a straight line from the center and note the reading in degrees as indicated on the outer scale. The bar scale may be used to determine the approximate distance. This map was prepared by the Hydrographic Office of the U. S. Navy Department.